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ECONOMIC AFFAIRS

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CONTENTS

PEOPLE'S REPUBLIC OF CHINA

NATIONAL POLICY AND ISSUES

'SICHUAN RIBAO' Discusses Key Project Funds (Editorial; SICHUAN RIBAO, 7 Dec 82)	1
Trademark Laws Explained (Ren Zhonglin; ZHONGGUO RENMIN GUOWUYUAN GONGBAO, 30 Sep 82) ..	4
Benefits of Rewarding Diligence Discussed (ZHEJIANG RIBAO, 17 Oct 82)	9
Improved Commodity Circulation, Production Encouraged (SICHUAN RIBAO, 16 Nov 82)	11
Rational Expansion of Commodity Circulation Channels Urged (Fan Yongyu; SICHUAN RIBAO, 11 Nov 82)	14
Method of Quadrupling Output Value by 2000 Discussed (SHIJIE JINGJI DAOBAO, 27 Sep 82)	17
Not Everything Must Quadruple, by Luo Jingbo Pricing System Needs Improvement, by Wang Zhenzhi Importance of Circulation Stressed, by Li Jingwen	
Shanxi Industry Plants Shoulder Heavy Tasks (Liu Zhengzhi; SHANXI RIBAO, 15 Nov 82)	25

ECONOMIC PLANNING

Hubei Deputies Support Zhao Report on Plan (XINHUA, 8 Dec 82)	30
Tianjin NPC Deputies Discuss Zhao's 5-Year Plan (XINHUA, 9 Dec 82)	32

Hebei NPC Deputies Discuss Zhao Ziyang Report (XINHUA, 8 Dec 82)	34
Xinjiang NPC Deputies Discuss Zhao's 5-Year Plan Report (XINHUA, 8 Dec 82)	35
NPC Deputies Discuss Sixth 5-Year Plan (XINHUA, 7 Dec 82)	37
AGGREGATE ECONOMIC DATA	
Problems in Use of Constant Prices for Industrial Products (TONGJI, 17 Oct 82)	40
Inclusion of Team Production in GVIO Figures Urged (Xu Shugeng, Li Linjie; TONGJI, 17 Oct 82)	44
FINANCE AND BANKING	
Financial Management in Autonomous Nationality Regions Reported (Han Guochun, Zhao Bokun; CAIZHEN, 5 Oct 82)	50
Theory of Savings Deposits Explored (Liu Zhenlu, Chen Haowu; ZHONGGUO JINRONG, 4 Nov 82)	53
INDUSTRY	
PRC Regulations on Disposal of Stocked Materials (XINHUA, 27 Dec 82).....	59
New Developments in Industrial Technology in Guangdong (NANFANG RIBAO, 6 Oct 82)	61
CONSTRUCTION	
Changes in Financing of Capital Construction in Shanghai Reported (JIEFANG RIBAO, 19 Sep 82)	64
New Housing Construction Planned for Shanghai (Chen Guodong, et al.; JIEFANG RIBAO, 27 Aug 82)	66
Forty New Research Institutes Built in Shanghai (JIEFANG RIBAO, 26 Aug 82)	69
Importance of Urban Construction Stressed (CHINA DAILY, 23 Dec 82)	71
PRC Speeds Up Construction of Deepwater Berths (XINHUA, 22 Dec 82)	73
Housing Construction Malpractices Revealed (XINHUA, 26 Dec 82)	74

National Urban Development Symposium Closes (XINHUA, 24 Dec 82)	76
LABOR AND WAGES	
Beijing, Shanghai Youth in Labor Emulation Drive (XINHUA, 24 Dec 82)	78
Shanghai Provides 1.5 Million Jobs in 6 Years (XINHUA, 29 Dec 82)	80
Beijing Trade Union Council Outlines 1983 Work (XINHUA, 23 Dec 82)	81
TRANSPORTATION	
Reorganization of Traffic Eases Tianjin-Pukou Line Load (Song Qihua, Wang Liangjun; DAZHONG RIBAO, 19 Sep 82)	82
Hubei Holds Conference on Railroad Public Order (HUBEI, 16 Dec 82)	84
National Conference Studies Maintenance of Locomotives (Zheng Shuxuan; JICHE DIANCHUANDONG, No 4, 1982)	85
Policy on Optimal Type of Railway Motive Power Discussed (Jin Chenhu, Rui Yulan; JICHE DIANCHUANDONG, No 4, 1982)	89
Development of Railroad Motive Power Studied (Dong Zhaomin; JICHE DIANCHUANDONG, No 4, 1982)	100
First Part of Qing-Zang Railroad Basically Completed (Qingmiao; GONGREN RIBAO, 21 Sep 82)	109
Anhui-Jiangxi Railroad Opened to Traffic 1 October (GONGREN RIBAO, 1 Oct 82)	110
Railroad Safety Said Threatened by Production Brigade (GONGREN RIBAO, 20 Sep 82)	111
Lanzhou Railway Workers Studying Congress Report (GANSU RIBAO, 17 Sep 82)	113
First Dual-Purpose Bridge Over Huaihe Completed (GONGREN RIBAO, 1 Oct 82)	114
Shandong Maritime Transport Rapidly Developing (Zhu Shijia, et al.; DAZHONG RIBAO, 1 Oct 82)	115
Over 3000 Urban Dirt Streets in Beijing Upgraded (Cheng Junjing; BEIJING RIBAO, 21 Sep 82)	117

Overpass Construction at Shiyi Jinglu, Tianjin Reported (Zeng Chonghe; TIANJIN RIBAO, 22 Sep 82)	119
Aviation Firm To Serve Developing Nations (XINHUA, 24 Dec 82)	121
CIL Air Transport Doubles in Past 4 Years (XINHUA, 16 Dec 82)	122
Conversion of 'Daqing' Type Tankers Examined, Analysed (Qiu Xichang; ZHONGGUO ZAOCHUAN, No 4, 1982)	123
System of Economic Responsibility in Road Maintenance Detailed (GONGLU, No 10, 1982)	133
Highway Construction Seen as Requisite for Two Civilizations (GONGLU, No 10, 1982)	142
Highway Construction in Shanxi Described (GONGLU, No 10, 1982)	146
Highway Construction Advocated for Advancing People's Welfare (GONGLU, No 10, 1982)	148
Highway Administration Strengthened in Hubei Province (GONGLU, No 10, 1982)	149
Briefs	
Nanjing Xinshengxu Port	153
Freighters for Hong Kong Company	153
'Yangchenghu' Maiden Voyage	153
Heilongjiang Water Transport	153
Super Freight Car Built	154
Tian-Lan Railine Electrification	154
Northeast Air Route Opens	154
First Containerized Cargo Ship	154
Bailongjiang Highway Bridge Opened	155
First Beijing Pay Telephone	155

GENERAL

Economist Honored by Social Sciences Academy (XINHUA, 18 Dec 82)	156
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NATIONAL POLICY AND ISSUES

'SICHUAN RIBAO' DISCUSSES KEY PROJECT FUNDS

HK150659 Chengdu SICHUAN RIBAO in Chinese 7 Dec 82 p 1

[Editorial: "Concentrate Capital To Guarantee Key Projects"]

[Text] Concentrating necessary funds to guarantee key national projects is an important policy decision formulated by the 12th CPC Congress on enlivening the overall situation of the national economy. It is a major task closely related to the long-term interests of the people throughout the country. All the fronts in our province should establish in their minds the idea of taking the situation of the whole country into account and strive to make greater contributions toward concentrating necessary funds for the state.

In order to achieve the strategic goal of quadrupling our total national industrial and agricultural output value, we should focus on laying foundations, accumulating strength and creating conditions in the first decade and strive to enter a new period of economic prosperity in the latter decade. The satisfactory carrying out of the construction of the key projects related to energy and transport is precisely the task of laying foundations and is one of the strategic key links. The construction of these projects needs a large amount of funds and these projects have to be spread rationally in appropriate locations all over the country; therefore they must be arranged under the overall management of the state and cannot be carried out by merely relying on local resources. During the past few years, both our total national industrial and agricultural output value and national income have sustained a relatively high rate of increase, but the proportion of the financial revenue of the state in the total national income has decreased year by year. The financial revenue of the state has been decreasing, but the funds at the disposal of local authorities and enterprises have been increasing. As a result, more than 50 percent of the total amount of capital construction investment is not outside the budget of the state. Some projects are viewed as necessary from a local point of view, but from the national point of view, they can be suspended until a later date. If we do not distinguish urgent and important projects from less urgent and important ones, we will disperse the employment of our funds and the state will not be able to carry out the construction of key projects related to energy and transport, and thus we may fail to achieve the strategic goal for the coming 20 years. Therefore, concentrating necessary funds to guarantee the construction of the key national projects is an inevitable trend and a task of great urgency.

Essentially, the question of how we are to treat the task of concentrating necessary funds to guarantee the construction of key national projects is a problem of how we are to handle the relationships between the whole and the parts and between immediate and long-term interests. In his report to the 12th CPC Congress, Comrade Hu Yaobang pointed out that "if key national projects are not guaranteed and if such parts of the infrastructure as energy and transport are not developed, the national economy as a whole will not prosper and the individual sectors are bound to be greatly restricted in their development. Even if there were some growth in a given locality at a given time, it would not last because of difficulties in striking a balance between supply, production and marketing." The enlivening of local economy depends on that of the whole. Only when the whole is mobile can all its parts also be mobile. The actual situation in our province have fully proved this. Our province lacks energy and transport facilities and this has already hindered the development of our national economy. If we do not proceed from the interests of the whole and from long-term interests and do not make vigorous contributions toward concentrating funds, the state will not be [words indistinct], by taking consideration of the [words indistinct] the construction of key projects related to energy and transport and the situation in the whole country cannot be enlivened. As a result we will not be able to enliven our province's national economy, make it prosper or gradually improve the livelihood of the people in our province.

It is not only necessary, but also possible to concentrate necessary funds to guarantee construction of key projects. During the past few years, we have implemented the economic responsibility system and all levels have some funds not included in their budgets. In 1981, the funds not included in the national budget amounted to 57 billion yuan, so the state can raise 5.7 billion yuan if it only concentrates 10 percent of these funds. Ours is such a vast country that if each of our income-producing units provides the state with funds, the total amount will be great and will enable the state to carry out several major projects. What we mean by concentrating funds is concentrating necessary funds for the state to carry out construction of key national projects related to energy and transport. It by no means signifies that we should concentrate funds level by level and deprive the local governments and enterprises of all reserve funds. In order to concentrate necessary funds for the state, we should appropriately raise the proportion of the state's financial revenue and readjust the irrational proportion of the income retained by local governments and enterprises. However, we will never return to the old method of the state collecting all income and paying all expenditures. While concentrating necessary funds, we should adhere to the orientation of reform, maintain the continuance of our policies and ensure that enterprises have their due autonomy. Thus we will enable the local governments and enterprises to have the strength, under the guidance of the state plans, to do the jobs suitable for them, especially the technical transformation and renewal of equipment in the existing enterprises. By so doing, we will be able to protect and give further play to the initiative of the local governments and enterprises.

Since we have to both ensure the concentration of funds for the state and enable the enterprises to have the necessary financial resources to carry out

technical transformation and to gradually improve the livelihood of their staff and workers on the basis of developing production, we must conscientiously consolidate existing enterprises, perfect the economic responsibility system, do a good job of reorganization and combination and make vigorous efforts to improve economic results. We should rely not on scrambling for a bigger proportion of retained profits, but on tapping our inherent potential. Judging by the actual conditions in our province, there is great potential to tap in our enterprises. In 1981 the output value per 100 yuan of fixed assets in our province's industry was 32 percent lower than the average national level and the ratio of profit to output value was 17 percent lower than the average national level. The disparity between our province and the advanced provinces and municipalities is even greater. So long as we strive to improve our administration and management and tap the potential of our enterprises, we will be able to guarantee not only the concentration of the necessary funds for the state but also the proper economic interests of the enterprises and staff and workers and thus rationally take into account both the interests of the state and the interests of the enterprises and staff and workers.

CSO: 4006/172

NATIONAL POLICY AND ISSUES

TRADEMARK LAWS EXPLAINED

Beijing ZHONGGUO RENMIN GONGHEGUO GUOWUYUAN GONGBAO [GAZETTE OF THE PRC STATE COUNCIL] in Chinese No 388, 30 Sep 82 pp 616-620

[Speech by Ren Zhonglin [0117 0022 2651], Director, General Administration of Industry and Commerce, at the 24th session of the Standing Committee of the Fifth National People's Congress, 19 August 1982: "Explanations of the PRC Trademark Law (Draft)"]

[Text] Chairman, Vice Chairmen and Members of the Committee, I intend to give the Standing Committee a brief explanation of the PRC Trademark Law (draft) for your consideration.

As to legal provisions for trademarks, our country has had two sets of regulations since the establishment of our government. One was the "Provisional Regulations for the Registration of Trademarks" of July 1950, and one the "Regulations Governing the Administration of Trademarks," revised and promulgated in April 1963. The latter regulations have been in force up to now.

During the 10 years of turmoil, our trademark system was badly disrupted, the administration of trademarks was not centralized and confusion in the use of trademarks resulted. After the establishment of the General Administration of Industry and Commerce in September 1978, the Trademark Bureau, a subordinate to the General Administration, assumed responsibility and began, as from the end of that year, to clear up trademark registrations throughout the country and by November 1979 resumed the centralized registration of trademarks. Up to 30 June 1982, over 73,000 trademarks have been registered, of which about 63,000 were Chinese trademarks and about 9,900 foreign trademarks.

Judging from the practice of the last few years, the Regulations Governing the Administration of Trademarks of 1963 cannot meet the demands of the new historical period, mainly in the following respects: There are no provisions for the protection of the exclusive use of the trademarks, and this needs to be made clear and definite; the comprehensive registration procedure cannot meet the demand of the economic conditions as they have developed and this requires readjustment; the examination methods for registrations are not sufficiently strict and require perfection; the procedure for the registration of

foreign trademarks has already been revised and requires confirmation in legal form. In addition, there are a certain number of specific articles that must be reformulated, amended or supplemented. To achieve this, we started out from a consideration of what would be helpful to the development of the socialist commodity economy and the perfection of the socialist legal system, and in the spirit of basing ourselves on domestic practices while considering international practices, we carried out widespread investigations and research, solicited opinions from various departments, localities and concerned quarters, before we finally drew up the PRC Trademark Law in draft form. The following are the main revisions as compared with the Regulations Governing the Administration of Trademarks of 1963:

1. Regarding the Protection of the Exclusive Use of Trademarks

Since the Third Plenary Session of the 11th CPC Central Committee, following the implementation of the readjustment, restructuring, consolidating, enhancing of policies and the extension of autonomy of enterprises, many enterprises attached increasing importance to the exclusive use of registered trademarks and demanded their legal protection. However, since the 1963 Regulations Governing the Administration of Trademarks had no provisions for the protection of the exclusive use of trademarks, there was no legal basis to provide this protection. This proved not only detrimental for the protection of the interests of producers and consumers alike, but also of a detrimental influence on the maintenance of economic order.

The protection of the exclusive use and preventing infringements are the key links in a sound trademark system. The effective protection of the exclusive use of trademarks is beneficial as it spurs on producers to maintain the reputation of their trademarks and to guarantee and raise the quality of their products, and consequently safeguards the interests of the consumers and thus promotes the development of the commodity economy.

We have, therefore, placed the protection of the exclusive right to a trademark into a prominent position in the draft of the trademark law. After a trademark is registered on application by the user and on examination and approval, the user acquires the sole use right, and no one may infringe upon his right. The draft, moreover, determines what are infringements of trademark rights and how to deal with infringements, also gives a clear and definite procedure for dealing with infringements and defines clearly the responsibilities of the administrative organs and the judicial organs. In case of an infringement the draft trademark law provides that the registered owner of the trademark can apply for necessary action to the branch of the industry and commerce administration of county or higher rank at the place of residence of the person who committed the infringement. The competent branch of the industry and commerce administration has the authority to order the guilty party to stop further infringements, to eliminate the effects of his actions and pay compensation for damages. In serious cases a fine may also be imposed. The draft also provides that the person who suffered the infringement may directly institute legal proceedings at the people's court.

In case of someone counterfeiting someone else's trademark, which includes cases of unauthorized manufacture or sale of articles marked with the trademark registered by someone else, apart from having the guilty party pay damages to the one whose right has been infringed upon, and possibly also imposing a fine, the judicial organs may directly institute prosecution of the responsible persons.

2. Changing the Method of Comprehensive Registration

Comprehensive registration is actually compulsory registration, that is, every use of a trademark must be registered. This method was instituted in 1957. At that time, the socialist transformation with regard to the private ownership of the means of production had been basically completed, and planned distribution, controlled procurement and exclusive sales monopolies were carried out, the production enterprises cared little about market functions, therefore they did not register their trademarks. The application of comprehensive registration was therefore of a certain effectiveness under the past historical conditions. However, following the development of the socialist commodity economy, the change of the economic structure and the expansion of autonomy in the enterprises, it became increasingly obvious that these administrative methods enforcing the registration of all trademarks, the "cutting with one knife" way of doing things, was not helping to arouse the inherent enthusiasm in the enterprises, nor to raise economic effectiveness and to develop commodity production. Moreover, in the case of commune production teams or small street enterprises whose production is unsteady and who temporarily use a trademark for small items of commodities produced locally and sold locally, it appears not necessary to insist on having them apply for registrations.

In consideration of the above circumstances, the draft law changed the method of comprehensive registration. From now on, people are urged mainly through propagandistic education to apply for registration on their own initiative whenever there is a need for the exclusive use of a trademark, to obtain its sole use rights. At the same time, a small number of commodities that are closely linked with the national economy and the people's livelihood, such as pharmaceuticals, will still be required to use registered trademarks and to have their trademarks registered. The precise commodities of this sort will be determined by the administrative agencies of the State Council in charge of industry and commerce in consultation with the departments in administrative charge of the relevant branches of industry, and will be submitted to the State Council for approval. Could the change in the method of comprehensive registration result in confusions in the use of trademarks? In my opinion this will not occur. Not only are there clear and definite provisions in the draft law on the protection of the sole use rights of trademarks and against infringements of trademarks, but at the same time there are also provisions on the use of unregistered trademarks, so that control of trademarks has not been relaxed but rather tightened. Demands on the work to be performed in this respect are also higher than in the past.

3. On the Supervision of the Quality of Commodities

The quality of the commodity is the foundation for the reputation of its trademark, and this is closely linked with the interests of the consumer. The draft law has provisions on the control of trademarks and on the supervision of the quality of the commodities, making it an important task of trademark administration to prevent deception of the consumer. This is an outstanding special feature of our country's trademark law.

The quality of the commodities is a complex question, its solution depends on many different factors, first of all on the production sector. However, in the work of trademark administration, where we start out from the protection of the interests of the consumers, to prevent deception of the consumers is not a matter to be treated lightly. Based on these considerations, the draft law includes provisions to deal with all cases, whether involving registered or unregistered trademarks, where the commodities are manufactured in a rough and slipshod way but pretend to be of good quality, apt to deceive the consumers. The draft law also provides that in case of a transfer of a registered trademark, the party taking over the trademark must guarantee the quality of the commodity for which the trademark has been registered. With regard to persons who give permission to use a trademark, the draft law provides that the grantor of the permission must supervise the quality of the commodities on which the grantee uses the registered trademark, and the grantee must ensure the quality of the commodities on which he uses the registered trademark. All the above provisions are articles that conform with the realities and that are helpful in trademark administration to accomplish the work of supervising commodity quality and thus to safeguard the interests of the consumers.

4. On the Trademark Registration Procedure

According to the Regulations Governing the Administration of Trademarks, on receipt of an application for registration of a trademark, it is examined and if approved, granted registration and thereupon published in the Trademark Gazette. This method of onetime publication was instituted in 1958. Due to the fact that there was no publication for the purpose of eliciting possible objections before registration, the procedure was apt to lead to trademark disputes after registration. The draft law made some necessary adjustments and changes in the mentioned procedure and adopted a method of double publication. After an application for registration of a trademark is received and approved on the basis of an initial examination, it is to be first published in the Trademark Gazette for the purpose of eliciting possible objections. If no objections are raised within a specified time, or if the objections have been ruled unfounded, only then will registration be granted, and this registration will again be published. This method fits the changes in the comprehensive registration and is a helpful move toward a more perfect procedure of trademark registration. It will reduce disputes after trademark registration and provide better protection for the sole use rights of trademarks.

The draft law provides that the agencies in the State Council in charge of the administration of industry and commerce establish a trademarks appraisal

committee which shall be in charge of handling trademark disputes. A party whose trademark has been refused registration, who has objections against an initially approved trademark, who refuses to accept the decision of the Trademark Bureau or who disputes a registered trademark, may, within a prescribed period, appeal to the trademarks appraisal committee, which shall give the final decision or ruling.

5. On the Registration of Foreign Trademarks

The Regulations Governing the Administration of Trademarks provides that a foreign application for trademark registration must meet two conditions: one is that the applicant's country must have concluded a reciprocal trademark agreement with our country, and the other condition is that the trademark must have already been registered in the country of origin, for which fact evidence must be submitted. However, the majority of countries at present, in the interest of developing foreign trade, demand in the question of trademark registration that such cases be handled on the principle of reciprocity and do not require the signing of agreements of reciprocity and the submission of evidence of registration in the country of origin. With the approval of the State Council, the relevant articles concerning the registration of foreign trademarks were already—as from 1978—revised and implemented in a flexible manner according to the principle of reciprocity. The draft law stipulates for applications to register foreign trademarks that they be handled according to agreements signed between the applicant's country and our country, or according to treaties to which both countries are parties, or according to the principle of reciprocity.

The draft law has made further appropriate revisions regarding other questions, again in consideration of the actual conditions in our country. The main revisions are: (1) The provision that domestic trademark registrations are effective for an unlimited time was changed so that the registration of domestic and foreign trademarks will be effective for a period of 10 years, when an extension can be applied for. (2) The provision that registrations expire if the trademark was not used for 1 year after registration was adjusted and changed to cancellation after non-use for 3 consecutive years. (3) In consideration of the actual conditions in our country where certain departments and enterprises allow mutual use of trademarks, additional provisions are included regarding permission to use trademarks, allowing the owner of a trademark to sign agreements for the use of his registered trademark by someone else.

9808

CSO: 4006/116

NATIONAL POLICY AND ISSUES

BENEFITS OF REWARDING DILIGENCE DISCUSSED

Hangzhou ZHEJIANG RIBAO in Chinese 17 Oct 82 p 1

[Article by staff correspondent: "Merits of Rewarding Diligence and Penalizing Laziness"]

[Text] While in the process of implementing the economic responsibility system of "four contracts and one quota" in enterprises under their control, the Jinhua Municipal Economic Commission stressed building economic interests on the economic tasks undertaken for the state: those with good benefits and large contributions obtain great advantages while those with poor benefits and few contributions obtain few advantages. This method reflects the principle of rewarding diligence and penalizing laziness and should be widely promoted.

Since our province has encouraged the economic responsibility system, that evil practice of the past of eating "out of one pot" in the economic management system has been strongly attacked. The phenomenon of egalitarianism among enterprises where people are treated the same regardless of how much work they do or how good a job they do has been overcome. The initiative of enterprises and employees has been effectively aroused to bring about increased production and revenues. However, as with all new things, there is a process involved in understanding the economic responsibility system as well as a process of actual practice. At present, there are various problems in many regions in practicing the economic responsibility system. It is necessary for us to earnestly study and inquire into these problems. It is also necessary to sum up experiences, strive to make improvements and make the economic responsibility system even more perfect so that even greater results will be obtained.

Rewarding diligence and penalizing laziness is a major means for perfecting the economic responsibility system. At present, the state has adopted the method of profit retention in enterprises. This does not mean simply assigning a portion of profits to enterprises but rather following a policy and rewarding those who are diligent and penalizing those who are lazy. This will arouse the socialist enthusiasm of enterprises and employees and improve economic benefits. It is necessary to allow enterprises with good management that have received good benefits to obtain more profits. Enterprises with average management will receive a fair portion of profits and enterprises with poor management will naturally receive few profits, no profits and even economic penalties. It can also be put this way: there is only so much "rice." Good enterprises can eat

enough and have to spare, average enterprises can barely eat enough and inferior enterprises can eat thin gruel. Only by making such distinctions between diligence and laziness and distinguishing them through rewards and punishments is it possible to encourage advancement and spur on the backward. Only then is it possible to push enterprises to improve their level of economic management and only then can we build up and train experts who are good at managing modern socialist enterprises while reforming the economic system. If we simply assign state profits to enterprises, under favorable conditions they will sit idle and get stable yields despite drought or excessive rain. This will destroy one kind of eating "out of one pot" and give rise to another kind. It will have lost sight of the goal of reform.

Rewarding diligence and penalizing laziness unquestionably brings pressure to bear on enterprises. However, this is a very favorable sort of pressure. It will boost morale, arouse fighting will and become our motive force for continuing to forge ahead. At present there are many objective factors that influence enterprises in implementing increased production and revenues and in improving economic benefits. There is no shortage of difficulties. It must be understood that the financial and economic state of affairs in our nation has not yet basically improved and many problems exist. It is our bounden duty to undertake these difficult problems of our own accord, to help our nation get over these difficulties and to make greater contributions. We must look at the difficult aspects as well as the favorable aspects. We must not explain objective factors clearly while being vague about subjective factors. Carrying out the economic responsibility system does not mean ignoring economic interests but rather closely integrating responsibilities, rights and interests. It requires that our enterprises foster the following ideology: depend on genuine ability and not give special consideration. This means that economic interests must be built on striving on tap potential and improving economic benefits. If we do otherwise, it will be impossible to obtain economic benefits. Excellence in work is possible only through diligence, not through laziness. Worthy leaders in enterprises should seek trouble for themselves and seek pressure. They should rely on the hard work of all staff and workers to obtain real economic benefits. If they prefer to rely on getting by through special consideration and try to obtain economic benefits without doing any work, not only is this not honorable, it may cause people to become indolent and content with things as they are. They will not seek to keep forging ahead and this would be very undesirable.

Rewarding diligence and penalizing laziness conforms to the principle of each according to his ability and to each according to his work. Vast numbers of cadres and employees in basic level enterprises enthusiastically support and endorse this. It must be believed that when working on overall enterprise reorganization and on implementing the economic responsibility system, only by earnestly carrying out the principle of rewarding diligence and penalizing laziness and by improving the method of profit retention can we increase the sense of responsibility among workers of being their own masters. We must encourage industrial production to steadily advance on the basis of improving economic benefits.

9864

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NATIONAL POLICY AND ISSUES

IMPROVED COMMODITY CIRCULATION, PRODUCTION ENCOURAGED

Chengdu SICHUAN RIBAO in Chinese 16 Nov 82 p 1

[Article by staff correspondent: "Enliven Commodity Circulation and Advance Commodity Production"]

[Text] In the past few years, under the guidance of the spirit of the Third Plenary Session of the 11th Central Committee, our province has carried out reforms in the sphere of circulation. With state-run businesses as primary channels, a circulation system consisting of multiple circulation channels along with diversified economic sectors and diversified management modes has begun to take form. It has played a major part in arousing initiative in various commercial organizations, enlivening circulation, causing the economy to thrive and promoting the development of industrial and agricultural production. However, circulation channels are still not sufficiently open. Certain commodities are seriously overstocked and market forecasts are poor. There are also many problems awaiting solution in the areas of management and management ideology. The unshirkable duty of commercial workers throughout the province while implementing the spirit of the 12th Party Congress is to adopt effective measures, actively open up circulation channels, accelerate the development of commodity production, speed up the pace of eliminating rural poverty and satisfying the needs of state construction and the people's livelihood.

In his report to the 12th Party Congress, Comrade Hu Yaobang pointed out: "The quality of commercial activity directly influences industrial and agricultural production as well as the people's livelihood. The significance of this problem in our economic development has become increasingly apparent." For example, in the past some of us comrades overlooked work on commercial channels. This was excusable. However, today as commodity production is constantly developing it is wrong to only focus on production and ignore circulation. Of course, we cannot depart from production to concentrate on circulation but leading comrades who truly lack awareness of the importance of circulation have not concentrated on it sufficiently. Therefore they must carefully study documents of the 12th Party Congress and come to a profound appreciation of the major significance of focusing on work in commerce. At the same time as they are focusing on production they must consciously focus on work on circulation.

At present, when enlivening commodity circulation, it is first necessary to actively seek outlets for those products in abundant supply. It is necessary to strive to open up the market and organize sale promotion. Quite a few regions have reported that certain agricultural by-products are not selling well. The peasants have made complaints and urban consumers are unable to buy what they want. Thus, it is necessary to change the business method of waiting for customers to stop by and go to stores, deliver goods to customers and promote product sales for the peasants by any means possible. In this way they will increase revenues on the basis of increased production and obtain economic benefits and increase production enthusiasm. In the past several years, although there have been relatively large developments in industrial and agricultural production in our province, the amount of commodities per capita is still lower than the national average level. The revenues of urban and rural people have increased and industrial goods have reached the countryside. There is great potential for agricultural by-products in urban areas. If we do good work, many products which are in abundant supply will have new sales outlets. Some products are overstocked in markets within the province while they are in great demand outside the province. Other products are unmarketable on the national market yet greatly desired on the foreign market. In this area it is necessary to learn from the experiences of the commercial sector of Dazhu County and adopt various means to promote commodity sales. This is a major link in further enlivening the urban and rural economy at the present time.

Regarding the planned economy as primary and market readjustment as subsidiary is a principle that must be adhered to for enlivening commodity circulation. Our national economy is a socialist economy that consists principally of a planned economy. The production and circulation of major products that have a bearing on state planning and the people's livelihood must rely on state planning for readjustment. At the same time, the production of some products must be regulated by the market under the guidance of state planning. In recent years we have stressed the role of market readjustment. This is correct and should be affirmed. However, because some reform measures have not been complete, the corresponding administrative measures have not kept pace. In the spheres of circulation and production, phenomena that weaken and hinder state centralized planning deserve our attention. Commercial sectors at all levels and all kinds of commercial enterprises should resolutely implement the principle of regarding a planned economy as primary and market readjustment as subsidiary. It is necessary to purchase, allocate and sell commodities controlled by state planning according to plan so that there is planned circulation. As for commodities regulated by the market, it is necessary to support enterprises and production brigades based on changes in supply and demand and to flexibly arrange production while making correct market forecasts. It is also necessary to promptly provide correct information on the market to help enterprises and peasants develop production and products in short supply while reducing production of abundant products. It is necessary to guide production on a course that corresponds to the needs of society by means of industrial and commercial contracts as well as agricultural and commercial contracts so as to avoid shortsightedness as much as possible.

Management ideology and management work style are significant factors that influence commodity circulation. At present, overall conditions in this respect are fairly good. However, a small handful of enterprise employees have been bent on pursuing profits in order to obtain more bonuses. They have blindly stocked up on goods that bring in profits which frequently leads to overstocking. They are unwilling to transact business or do very little business with products that bring in little profit which leads to poor circulation. This impedes the development of production. In socialist enterprises, the goal of business is to develop production and satisfy demand. It is not to purely pursue profit. There is nothing wrong with enterprises obtaining legal profits and fixed retained profits through business activities. However, they must not only think of how large a profit they can make from a commodity. They must concentrate on improving business management, reducing circulation costs and make every effort to have small profits but quick turnover. They must reorganize enterprises, strengthen the instruction of "one principle, two serves and three points of view" and examine the implementation of principles and policies and the quality of service. It is necessary to carry out full investigation, push enterprises in the correct direction of management, improve management work style and improve the quality of service.

When enlivening commodity circulation it is necessary to correctly handle the relationships between the various circulation channels and do good work in unifying planning and coordination. The guiding view of upholding the state-run economy and developing a diversified economy as pointed out by the 12th Party Congress are the principles for our correct handling of the mutual relations between various channels of circulation. After the Third Plenary Session of the 11th Central Committee, commerce gradually developed from a single form of management toward multiple forms of management. This is correct and it is necessary to continue in this direction. In order to have planned production and circulation, it is necessary to unify the organization of management in every circulation channel and in the various economic sectors. In operations, it is necessary to have a suitable division of labor and there should be rational quantitative distribution so that everything is properly accounted for. It is necessary to make a joint effort to serve industrial and agricultural production and the people's livelihood.

9864

CSO: 4006/133

NATIONAL POLICY AND ISSUES

RATIONAL EXPANSION OF COMMODITY CIRCULATION CHANNELS URGED

Chengdu SICHUAN RIBAO in Chinese 11 Nov 82 p 3

[Article by Fan Yongyu [5400 3938 0151]: "'Circulation Channels' Are Not Equivalent to Hundreds of Businesses"]

[Text] In China, the socialist centralized market consists principally of the coexistence of a diversified economy and diversified circulation channels with emphasis on state-run commerce. It is a significant part of the reform of the commodity circulation system. This reform is of benefit to changing the past state of affairs which involved blockages, few channels and numerous links. It has played a fine role in reviving the market and making things more convenient for the masses. However, during the process of reform, due to the fact that certain comrades lack a complete understanding of the problem of expanding circulation channels and due to an imperfect management system, a situation of having hundreds of enterprises engaged in trade and hundreds of wholesale outlets has occurred. For example, some agencies and schools have not actively done good work on their own businesses or wholeheartedly devoted themselves to commercial work. Certain plant enterprises have arbitrarily expanded the scope of independent product marketing. Some retail trade departments have arbitrarily extended trade management and engaged in decentralized wholesale trade. All of this has created numerous new problems for the socialist market.

As we all know, exchange is a major link in the process of reproduction. After commodities are manufactured, they must go through the intermediate link of exchange before reaching the hands of the consumer. However, the commercial sector is the functioning machinery that is concerned with work in the exchange of commodities. It is the bridge and link for joining production and consumption. Because of this our party has stressed doing good work in commercial activity, striving to open up various channels and enlivening commodity circulation. It is essential that we have a correct understanding of expanding channels of commodity circulation. Expanding channels of commodity circulation is quite different from "workers, peasants, soldiers, students and merchants all engaging in trade." If we regard work in commerce as important and disregard the social division of labor, all trades and professions will engage in commercial activity. This will inevitably affect production, abolish the division of labor in commerce and hinder the circulation of commodities. The

problem is quite clear, if industry, agriculture and communications all put excessive capital, manpower and material resources into commercial operations, how can they successfully manage their own production? If products of production departments decrease, what is there for the commercial sectors to deal with? At the same time, we must see that having hundreds of businesses engaging in trade and decentralized wholesale trade is of no benefit to opening up channels and enlivening circulation. On the contrary, it will block up channels, increase the number of links and reduce economic benefits. This is because certain enterprises that should not be engaged in commercial and wholesale activities are doing just that. They have to set up more organizations, increase the amount of capital funds and personnel which leads to overstaffed organizations, complications in purchasing goods and serious waste. Furthermore, because they do not understand the nature and uses of commodities and because they are unfamiliar with market prices, they often purchase goods blindly and randomly allocate goods. When purchased commodities are not marketable and when sales and whole sale trade are poor, there is overstocking of large groups of goods. They become stagnant, inactive goods so that formerly open channels become blocked up.

The report of the 12th Party Congress presented new demands for work in commerce. At the present time it is necessary to increase circulation channels and to see that goods flow smoothly. This is absolutely essential. However, we must guard against the phenomenon of having hundreds of businesses engaged in trade. We must strengthen the centralized leadership of state planning and clearly demarcate the scope of operations of the various channels to ensure that the socialist market thrives in an orderly way. As for major commodities that have a bearing on state plans and the people's livelihood, the state must strengthen planning and management. The state-run commercial sector must manage them and not let other channels meddle. Wholesale commodity links should basically be controlled by state-run commercial firms. That is, approving commodities for expanded channels distribution is done having determined management units and having coordinated operational plans under the organization of the government or concerned departments, so as to ensure that all circulation channels can best circulate its goods. At the same time, the state-run commercial sector must strengthen their work in purchasing, selling and allocating commodities to further revive major circulation channels. State-run specialized firms that operate wholesale businesses must take the initiative in serving retail trade. They must promptly organize commodity supplies, simplify wholesale procedures, frequently hold commodity trade fairs and place orders for goods. They must have open stocks so that commodities can be chosen from the samples and goods must be delivered to customers. As for retail units of various channels, when supplying goods they must treat everyone equally without discrimination. They must not favor some and be prejudiced against others.

Next, they must reorganize industrial independent marketing and strengthen the various systems. Industrial independent marketing is one of the channels of commodity circulation. Its goal is to allow plant enterprises to strengthen market forecasts and understand the needs of consumers which will facilitate improving product quality, assortment and expand production of marketable

products. Consequently, independent marketing industrial enterprises should test market a certain number of new products and some products from their own plants which have been approved for above quota production as well as surplus left over from commercial sector orders and purchases. Independently marketed products in industrial enterprises should follow price standards set by the state and pay taxes in accordance with the constitution while paying in profits according to regulations. Concerned departments must strengthen this aspect of the system.

In addition, the state must give full play to the role of industrial and commercial administrative departments to strengthen market management. They must mobilize taxation, banking and commodity price offices to jointly do good work in supervision, to protect legal management and ban illegal management. Only in this way can there truly be expanded channels, good order and excellent benefits in commodity circulation and only then can it play an even better role in accelerating production and making the economy prosper.

9864

CSO: 4006/133

NATIONAL POLICY AND ISSUES

METHOD OF QUADRUPLING OUTPUT VALUE BY 2000 DISCUSSED

Not Everything Must Quadruple

Shanghai SHIJIE JINGJI DAobao in Chinese 27 Sep 82 p 3

[Article by Luo Jingbo [5012 0513 2672]: "Not Everything Has To Be Quadrupled"]

[Text] In my opinion, population control should also be included in the strategic priorities, since without this control, it will be difficult to quadruple total output value.

If Agricultural Growth Can Exceed 3 Percent, Economic Growth Will Generally Exceed 5 Percent

The present strategic priorities are not the same as before, when we had to "take steel as the key link," because they are now based on the actual conditions in our country. At the same time, they are identical to the common experiences of some developing countries in their economic development during the 1960's and 1970's. Let us talk first about agriculture. According to the latest World Bank data, if the rate of agricultural growth in underdeveloped countries can exceed 3 percent, then their economic growth rate will exceed 5 percent. Our country's conditions are quite obvious. The same situation exists with the economic development in our provinces, because those provinces with high agricultural growth also have high economic development. Second, as for energy and transportation, the developing countries have learned their lessons from experience. At first, many of them built large iron and steel plants and manufacturing plants. However, their infrastructure failed to catch up and finally became a handicap to economic development. Third, there is the question of intellectual investment, which concerns education and science.

Japan's Average Annual Growth Exceeded 10 Percent When Its Per Capita Output Value Was \$1,000

Someone has raised the question as to whether an average progressive rate of increase of 7.2 percent each year can be accomplished. I believe it is possible, although the task will be arduous. In the 30 years since the 1950's, the average annual growth rate in the Soviet Union and Eastern European countries was 8-9 percent, while that of the developing countries was generally

6-7 percent and that of the developed countries was approximately 5 percent. Over the past 30 years, the average growth rate in our country was 9-10 percent, but only in some 10 of these 30 years did we make a concentrated effort on production and construction. Since the base figure in the next 10 years will be fairly large, some people are worried about the possibility of a 8-9 percent growth rate. As shown by the international economic situation, even when the per capita output value has already reached \$1,000, some countries can still maintain a fairly high rate of growth. Japan, for example, still had an average annual growth rate during the 1960's of more than 10 percent. In our country, however, the per capita output value in the 1990's will be only about \$500-700, and under these conditions, it is possible for us to have an 8-9 percent growth rate. One problem we now have is that education and science are lagging behind and cannot keep pace with development. This is a key problem.

One Problem for Worry Is the Extent That Energy Resources Will Restrict Economic Development

One question now is: Should the output of every product be quadrupled? Quite a good many comrades have answered in the negative, because if energy resources have to be quadrupled, the output of coal, now 600 million tons, will increase to 2.4 billion tons, and that of petroleum, now 100 million tons, will increase to 400 million tons. This will certainly require very intensive efforts. Some people have compared our energy consumption with Japan's. Consumption in both countries is equivalent to 600 million tons of standard coal, but our output value is only one-fourth that of Japan. If we can achieve the same energy utilization rate as Japan's, then maintaining energy production at the present level will in effect mean quadrupling its output. However, if we compare our present energy consumption with the average consumption level of advanced countries, we will see that our energy utilization rate is approximately 30 percent, while that of advanced countries is 50 percent. Therefore, as long as we can step up our work in technical transformation, in readjustment of the economic structure, and in every conservation in all fields, it will be possible for us to double our energy output. At present, particularly since the oil crisis, Western countries have also been very keen on energy conservation. In the past, it was believed that the ratio of speed in economic development to that in the increase of energy output should generally be 1:1. This was the so-called flexible consumption coefficient. This was basically the ratio in Japan in the past; now it is close to 1:0.73, and it is estimated that in the 1990's it will be 1:0.4. In other words, economic growth will be twice as fast as the growth of energy output. In the 30 years between 1950 and 1980, the average rate of increase in consumption of energy was generally 4 to 4.3 percent each year. This rate of increase was twice that of the increase in energy consumption in the world during the same period. This shows that energy has been the factor restricting our economic development. The extent that it will continue to restrict it is the problem we are worried about.

The Soviet Union and the United States Took 15-18 Years To Quadruple Their Output of Power

The problem of quadrupling energy output is mainly a problem of development of power generation. Electric power must be quadrupled since it is a secondary

energy. Hydropower can be used as secondary energy, but hydropower at present amounts to only 4 percent of our entire energy makeup. Our present annual power-generating capacity is 300 billion kwh. How much time did other countries take to increase their power output from 300 billion kwh to 1.2 trillion kwh? The output of the United States in 1947 was 0.3 trillion kwh; it increased to 1.1 trillion kwh in 1965--a period of 18 years. The Soviet Union's output was 0.3 trillion kwh in 1961; it increased to 1.1 trillion kwh in 1976--a period of 15 years. If they can quadruple their output in 15-20 years, there is no reason why we cannot do the same.

According to a U.S. Statistic, the Output Value of Intensive Processing of Crude Oil Has Been Increased 100-Fold

Increasing energy output, however, is no easy matter. How should the increased energy be rationally used? How can the entire energy makeup and the industrial structure be called rational? These are important questions. Someone has mentioned the following U.S. statistic: If 1 ton of crude oil is processed into chemical products, the output value can be increased 10-fold. If these chemical products are processed into medium-grade products, the output value of the crude oil can be raised 100-fold. At present, the value of a ton of crude oil is only some \$200. If it is processed into chemical products, the value will be increased to \$2,000. Again, if the chemical products are processed into plastics or pharmaceuticals, their value will be increased to \$20,000. The actual utilization rate of our 100 million tons of oil is very low, and only one-third of it is used as fuel. If intensive processing can be carried out on 20 percent of it, the output value will amount to \$400 billion. If a comprehensive utilization rate can be achieved for the 600 million tons of coal, the output value will be very impressive indeed.

Pricing System Needs Improvement

Shanghai SHIJIE JINGJI DIAOBAO in Chinese 27 Sep 82 p 3

[Article by Wang Zhenzhi [3769 2182 0037]: "Current Pricing System Hinders Economic Development"]

[Text] Floating price is different from either the traditional fixed planned price or unrestricted free price; it is a special form of pricing that is in between the two. It has the strong points of both planned and free prices and is able to overcome their defects. In studying the pricing system, due attention must be paid to floating prices.

Floating Prices Should Be Adopted If Total Output Value Is To be Quadrupled

Floating prices are based strictly on the planned economy of the state; however, the way to adopt it is fairly flexible. It means that while the types, scope, and margin of floating prices are determined by the state under an overall arrangement, enterprises are at liberty to adjust them within the limit between the highest and lowest figures. If we want to quadruple total output value in 20 years, the system of pricing must be reformed. The current pricing system is a hindrance to economic development, and the single form of planned prices must be changed to a multiple form before it can be consistent

with the basic principle of the leading role of the planned economy and the supplementary role of market regulation.

The General Price Level Should Be Controlled Mainly by Planning

In carrying out price reform, what we usually did in the past was to raise prices to a new level and then find some way to stabilize them. Another method was the Soviet method, which "raises the prices every 'five.'" In other words, whenever a new 5-year plan begins, prices have to be reformed. In our country, the way to reform prices is described in this symbolic sentence: "It would be best for price fluctuations to be like a mild tremor instead of a severe tremor." In the case of an earthquake, for example, a severe tremor can be prevented through a series of mild tremors. This means that a major price fluctuation can be avoided through a number of minor adjustments. Price fluctuations are extremely harmful to the entire national economy. Therefore, the general price level must be controlled mainly by planning.

For the Future Trend of Prices, an Average Annual Increase of 2 Percent Should Be Desirable

Let us look at the question of forecasting the trend of prices from the standpoint of strategic development. At present, prices are rising in the world, while in our country, prices have been basically stable for more than 30 years, despite some slight increases. These slight increases refer to increases of about 2 percent each year. What will be the future trend of prices in our country? Because of changes in the relationship between supply and demand and in currency and other factors, our price index cannot remain fixed and unchanged. Our prices may remain basically stable in the Sixth Five-Year Plan and the Seventh Five-Year Plan, or probably up to the year 2000, although slight increases will be allowed. What is meant by "basically stable?" When we spoke of stable prices in the past, we always had in mind the freezing of prices, as we did last year and this year. So-called basic stability means the basic stability of market prices. However, if we want to boost our agricultural production, the present prices of agricultural products are too low for our long-range economic development. After the rise in procurement prices for agricultural products, there should be a reasonable parity between marketing prices and procurement prices, so that the marketing prices will not be lower than the procurement prices, as they now are. If this abnormal situation has to be ended within the next 20 years, it will be necessary to abolish altogether the annual price subsidy of 3 billion yuan. In this case, prices will be raised further, even for coal and some raw materials. Of course, prices of such articles as shoes, socks, plasticware, and durable goods will be lower, but on the whole, the increase in prices will be larger than the decrease. It would be desirable for prices to be increased by approximately 2 percent, which would mean 5 billion yuan. At this rate, it would be possible for the existing price system to be readjusted in 5-10 years.

The Dominant Role of State-Set Prices Should Be Replaced by That of Floating Prices

The authority over price administration was exclusively in the hands of the central government in the past, and enterprises had no say in determining

prices. Both the central government and the localities should share the power of price administration, and it is particularly necessary that enterprises have the power to set prices. The present dominant role of state-set prices should gradually be replaced by that of floating prices. In other words, all items that have an important bearing on national planning and the people's livelihood--such as grain, cotton, oil, coal and energy resources--should have their prices set by the state, while prices for the others should float.

Importance of Circulation Stressed

Shanghai SHIJIE JINGJI DAOBAO in Chinese 27 Sep 82 p 4

[Talk by Li Jingwen [2621 0079 2429]: "Attention Should Be Paid to Circulation"]

[Text] I feel that in order to realize the objective of quadrupling our total output value, we should pay attention to circulation in addition to production. The question of circulation was highly regarded in the report at the 12th party congress, and commercial work was also especially mentioned in the same report. I therefore suggest that economic research on this subject be intensified.

Attention Should Be Paid to Circulation in Bringing About Economic Prosperity Before Total Output Value Can Be Quadrupled

Marxist political economy has dealt clearly with the role of circulation and has pointed out the unity of production and circulation. Engels was even more explicit in saying that production and circulation affect and regulate each other. For a long time, however, we have stressed production and neglected circulation. We produced only for the purpose of increasing our output value and fulfilling a certain percentage of our tasks. Many enterprises have produced unwanted goods, causing serious overstocking. There is now a huge stockpile of the means of production, caused partly by poor circulation and partly by a lack of understanding of the purpose of production. Our system of material control is also far from adequate, and the products usually cannot be allocated in time to the units in need of them. The productive capacity of many enterprises cannot be fully utilized, partly because of certain problems among the enterprises themselves and partly because of poor circulation.

The report at the 12th party congress stressed the need to give full play to the role of commerce in promoting production, ensuring supply, and invigorating the economy. These remarks apply to the circulation of not only the means of subsistence but also the means of production.

First, it is necessary to promote or ensure production; second, we must guide production, or guide production according to social needs, in which case the marketing departments should provide information and forecasts to the production departments so as to help production departments produce what is needed in society, and solve problems relating to raw materials. In other words, the means of production and means of subsistence must circulate freely in order to promote economic development. Only thus can we quadruple total output value, or probably do even better. This is point one.

Secondly, we should study further the general principle of the leading role of the planned economy and the supplementary role of market regulation, and find out how to correctly implement it in circulation, particularly in the circulation of the means of production. For example, if materials are centrally controlled by the state, which means material control under the system of distribution according to plan, the appropriate number of types of such materials is an important indication of whether planned regulation or market regulation plays the leading role. According to our country's historical experience, only eight types were selected during the First Five-Year Plan. This number was gradually increased until it reached 500 in 1957. In 1958, it began to decline and went down to about 140. This was found to be unsatisfactory, in view of the chaotic economy then. In 1960, the number increased again, reaching more than 300 that year and returning to 500 or even more in 1965. By that time, more than 200 types were under the unified control of the government and 300 types were separately controlled by the ministries. Now, more than 800 types are centrally controlled by the government. Whether this number is too large or too small deserves further study.

At present, if planned guidance and centralized management have to be strengthened, it may be necessary to have more products under centralized control, because without planned circulation, planned production cannot be guaranteed. But how many more? If too many, the control will become overly rigid and will restrict the initiative of the localities and enterprises, thus hampering production.

How Will the Principle of the Leading Role of Planned Economy and the Supplementary Role of Market Regulation Be Implemented?

One problem at present is that the resources of some products are not being completely controlled by the state. For example, coal is supposed to be centrally controlled; however, only 54 percent of the total amount is actually controlled by the state. The proportion of centrally controlled cement is even lower--only 29 percent. The state controls only 70 percent of steel materials, while the remaining 30 percent are separately controlled by the ministries and the provinces. The resultant question is whether it would be better for the state to control all of them exclusively or only the main portion, with the remaining portion to be allocated by the localities, departments, or enterprises through market regulation, cooperation, or local planning. This question should be studied further.

In the previous 2 years, steel products were in excessive supply and sales were sluggish. For a while, nobody cared to control them. Since early this year, however, many steel materials have gradually become in short supply, and there is debate on this question.

(At this point, Feng Lanrui [7458 5695 3843] interjected: It may be impractical for the state to exercise complete control. However, how to bring the portion--left out of state control--under normal market regulation is an important question. There are now many evils in cooperation. Cooperation in getting a ton of steel, coal, or something else depends on certain conditions, and I don't know whether they should be called bribery or what. In studying the

question of circulation, we know that complete state control is basically impossible and inadvisable. There should be a proper way. Should the means of production be sold in the open market?)

What Feng Lanrui has said is quite true. The portion of products under planned control is being controlled fairly rigidly, while the other portion is simply left to drift uncontrolled. In fact, the planning departments should also consider the law of value, and the portion not included in the plan for centralized control should be under planned guidance or be regulated by the economic levers. The present situation is abnormal, because whatever is under state control is sold at unified state allocation prices, which are fairly low, and whatever is not state controlled is of inferior quality but is sold at high prices. The reason is that since the state does nothing to control the prices of the allocation, people are free to sell them at prices they set themselves. That is why, under the current price policy, fine-quality goods are sold at low prices and inferior goods are sold at high prices. The system of pricing should be improved; otherwise it will hinder production and circulation. Instead of encouraging the development of advanced technology, our current pricing policy can only restrict its development and condone backwardness. There are also abnormalities in circulation. If this is not brought under planned control, there will be even more illegal deeds. That is why the crackdown on economic crimes is so urgently needed. There are now many problems relating to circulation. Many questions in theory and practice should be studied in implementing the principle of the leading role of planned economy and the supplementary role of market regulation.

Financial Balance Without Material Balance Is Fictitious

Third, we should step up our study of the work of material balance. Of the three major balances (manpower, material resources, and financial resources), that of material resources should be the foundation; financial balance without material balance is fictitious. In the past several years, some construction projects could not be completed in time for regular operation mainly because the supply of capital construction materials was not assured, with the result that the work had to be held up while waiting for cement one day, waiting for timber the next day, and waiting for steel materials the third day. Balance and completeness of the means of production are quite important, and there are strict demands not only on quantity but also on quality, specifications, and schedule of supply. These demands are dictated by technology. If you want planks and are given steel rods, you simply cannot work with them. There is now a balance in the quantity of steel materials, but not in the varieties. Because of price and production factors as well as certain problems in organizing production, there are always certain varieties in short supply. Since our work of balancing is being done roughly, I hope that material balance will receive the same attention that financial balance does. Material balance will provide a foundation for financial balance. The theoretical and practical problems in this respect should be studied.

Fourth, a study should be conducted into the use of materials. This is closely related to science and technology. Our utilization rate for coal is very low; this is also true of steel and timber. Waste is very serious because of

inadequate supervision and management of their use. We have had satisfactory results in our study of production technology and economic management, but not in our study of use and consumption, since many research institutes do not have special organs for such study. Yu Guangyuan [0060 0342 6678] has advocated the study of consumption economics, but so far our studies in consumption and the organization, management, and supervision in this respect are very poor. In Romania, the supply ministry is called the Ministry of Technical-Material Supply and Control of Fixed Assets, so that there is supervision wherever supplies are utilized. We should strengthen our theoretical and practical study of these matters.

Circulating Funds in the Country Total 360 Billion Yuan, Equivalent to Half the Total Industrial Output Value, Because of Sluggish Circulation of Supplies and Scarcity of Newly Created Value; Large Gains by Circulating Departments Are Not Necessarily Good

Fifth, there is the question of speeding up the circulation of funds. There are now serious problems with the speed of circulation. Circulation of the means of subsistence is slow, and stocks of commodities and supplies are huge. Yesterday, Yu Guangyuan mentioned that the circulating funds [in the country] amount to 360 billion yuan, which is equivalent to half of the total industrial output value. This huge amount has been caused by the slow turnover of products and supplies and the scarcity of newly created value. Some of our current systems are quite irrational, since profit targets are set for supply departments on the assumption that high profits mean good economic results. In fact, there are many methods for increasing profits, and the main one is to substitute direct contact for relaying. It should be possible for steel materials to be supplied from the steel plants directly to the production units. Under the present system, however, these materials have to be transported to the warehouses. In sending them out again, the warehouses have to charge a handling fee, storage fee, or transportation fee of 3 to 5 percent; this seems to be regular and proper. Of course, we do not mean that there should be no relay service at all. Such service is actually needed for goods in small amounts which cannot be transferred directly. This is quite necessary for improving the economic results and the target system, and should be considered in the light of the economic results of society as a whole. Large gains by circulating departments are not necessarily good, because these gains are made at the expense of industrial profits and may even add to production costs. This problem should be studied through economic science and by the departments directly involved.

9411

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NATIONAL POLICY AND ISSUES

SHANXI INDUSTRY PLANTS SHOULDER HEAVY TASKS

Taiyuan SHANXI RIBAO in Chinese 15 Nov 82 p 3

[Article by Liu Zhengzhi [0491 2973 0037], Chairman, Provincial Economic Committee: "The Heavy Task for Our Province's Industry in the 'Quadrupling'"]

[Text] In his report to the CPC 12th National Congress, Comrade Hu Yaobang solemnly announced to the entire party and the people: "In the 20 years from 1981 to the end of this century, the overall objective of struggle for our country's economic construction is to strive to quadruple our annual gross industrial and agricultural production value--from the 710 billion yuan in 1980 to about 2,800 billion yuan in the year 2000." This gigantic strategic objective is the primary task in developing a new prospect of socialist modernization on a total basis. It is presented as a result of summarizing our past experiences and lessons learned in our economic construction and it is based on our national conditions. It fully expresses the wishes of the entire party and the entire people. The entire country from top to bottom, every region, every unit, every party member, and every staff and worker should make the required contribution for the accomplishment of this objective with an indomitable and restless fighting spirit.

Shanxi is an important coal energy resource base and heavy chemical industry base for the country. Its industrial production value and industrial profits and taxes account for a very large proportion of its total industrial and agricultural production value and financial income. It is clear and easy to see that, whether it is from the point of view of Shanxi or the nation, Shanxi's industry shoulders a glorious and difficult task in the achievement of this "quadrupling". This will require us to arouse our revolutionary spirit, use scientific attitude, utilize favorable conditions, overcome various difficulties, and move the industry of our province forward based on the requirements of "quadrupling".

Since the founding of the People's Republic more than 30 years ago, the industry of our province has achieved a major development. By 1981 more than 9,450 industrial enterprises had been constructed with over 3,180,000 staff and workers and nearly 16 billion yuan in fixed assets. The total industrial production value in 1980 had increased by 54 times over that of 1949 and its ratio in the total industrial and agricultural production value had increased from 14.2 percent to around 70 percent during the same period.

This phenomenon of faster industrial development as compared to agriculture is likely to continue for a number of years. As the foundation of our national economy, agriculture is an extremely important economic department and must be pushed forward. However, the quadrupling of the total industrial and agricultural production value within 20 years is determined to a very large degree on the large scale increase of the industrial production value.

Of course, the "quadrupling" of the total industrial and agricultural value within 20 years is a national objective and uneven conditions of greater or lesser rates of increase are unavoidable in different provinces and regions. In other words, it is possible that the "quadrupling" of the total industrial and agricultural production value can be achieved or even exceeded in a very major number of provinces and regions. But it is also possible that a very small number of areas will fall below this objective for various reasons. This would be a normal phenomenon. As far as our Shanxi is concerned, what marching step should we use to move forward? Based on the actual conditions, the provincial committee has already clearly announced to all the people of the province of the determination for the total industrial and agricultural production value to accomplish the quadrupling objective by the end of the century. This is for the total industrial and agricultural production value to reach 68 billion yuan by the year 2000 from the base of 16.9 billion yuan in 1980. The industrial production value in our province already accounts for more than 70 percent of its total industrial and agricultural production value. Moreover, the rate of development of industry is clearly faster than agriculture. It is therefore not difficult to imagine that 70 or 80 percent of the "quadrupling" burden will fall on industry. We should, and we have the conditions to, accomplish this glorious and difficult mission.

Although the task is extremely large and difficult and many difficulties and dangers will be encountered during the 20 years of the long journey, it is entirely possible that the task can be accomplished in view of the potentials and favorable conditions that exist in our province.

Following the gradual elimination of the leftist guiding ideology in economic work, the solidification of the party's principles and policies, and the proper handling of this historical question, work priorities in the entire province have appropriately shifted to economic construction. The CPC 12th National Congress has also made an overall deployment in various areas for the accomplishment of this strategic objective so that various work can more rapidly be brought on to the right track for an economic upsurge. We have rich mineral resources of coal, iron, aluminum, and copper and a relatively solid heavy industrial base in our province. We are especially richly endowed with coal resources. Reserves of coal already delineated represent a third of the total delineated reserves in the country. More than 2,900 large, medium, and small coal mines have been constructed in the province and total output has reached 130 million tons, an increase of 49 times over 1949 and representing a fifth of the country's total output of raw coal. The production capacities of such heavy industries as machinery, chemicals, military projects, electric power, and metallurgy all occupy important positions in the country. As a result of several years of readjustment, the light and textiles industries have also made some important developments.

With the use of new equipment, promotion of new technology, and increase of new projects, production capacities will improve gradually. These are all important material foundations for the industrial and economic upsurge of our province and the quadrupling of our gross industrial and agricultural production value.

A very large potential exists in the industry of our province. If it can be developed and utilized, it is also a favorable condition for the promotion of industrial development. Take the more than 2,000 enterprises in the province with ownership wholly by the people for instance. They rank 21st in the country in terms of production value achieved per 100 yuan of original value of fixed assets, 18th in terms of total fixed circulating funds occupied by every 100 yuan of production value, and 18th also in the turn around of fixed circulating funds. If the various technical and economic standards can reach the historical level of the country, the gross production value will more than double. From the standpoint of the rate of industrial development, the annual increase of our province's gross industrial value in the next 20 years should average about 8 percent. This will be higher than the national average. However, it will be lower than the 13.9 percent achieved by our province from 1949 to 1979. Of course, in past years, there appeared in industrial production the serious problems of going after production value, going after rate, neglecting needs, and not paying attention to economic benefit. Although the rate of increase and production value were not low, production was rough and slipshod, waste of funds and materials was very serious, and the economic imbalance also had very much to do with this. However, the facts did show us that we have a definite foundation for increasing the rate of development. As long as we accept the lessons of the past, seek rate of development on the prerequisite of treating economic benefit as the focal point, and strive for the continuous upsurge of economic production according to the "quadrupling" requirement, we will be able to accomplish it. Moreover, the improvement of the modernization standards of industrial technology and equipment, reform in economic systems, improvement of management systems, and continuous strengthening of production capabilities will provide even more favorable conditions for the development of production.

Although favorable conditions are numerous, problems, difficulties, and dangers are also numerous. Speaking of the railways alone, there are six lines in the province with seven entries and the transportation capacity utilization rate is already 87 percent and is basically in a saturated condition. Not to mention the needs for further development of production in the future, over 10 million tons of coal and 5 to 6 million tons of other materials have been stockpiled each year along the rail lines and could not be shipped out even in recent years. Actually, the problem is not limited to transportation. We also have many other problems facing us and various unanticipated problems may also appear in actual practice. However, as long as we use the favorable conditions properly and actively solve the problems and overcome difficulties, our march forward shall not be stopped by whatever difficulties and dangers we may encounter. Is not the problem of communications and transportation listed in Comrade Hu Yaobang's report as an important one to be resolved? Was not the construction and reconstruction of our province's railways listed long ago in both the near-term and long-term plans of the state and the province?

In order that the industry can make a positive contribution to the "quadrupling" of the province's gross industrial and agricultural production value, it must make a conscientious study and selection of its developing path. Without a definite time frame and without a strict scientific attitude of seeking truth from the facts, this cannot be done properly. Nevertheless, in summary, the following areas deserve our attention.

Coal is an important energy resource for the development of the national economy. In terms of coal production, Shanxi is "richly endowed by nature" and it is also a priority for national construction. The active and planned development of coal production in Shanxi is needed for national construction. It is also a very important factor in raising the industrial production value of Shanxi. As long as we persist with the policies of joint development of large, medium, and small and of combining the reconstruction and the development of the potentials of old mines with the construction of new mines, the pace of coal production will be greatly accelerated. This means that in addition to the construction of some large and especially large coal mines based on the needs of national economic development, such as the Gujiao Coal Mine and the Mengzishan Coal Mine, large scale increase of production capacities can be achieved with the existing state's centrally coordinated coal mines through reconstruction and the adoption of advanced technology and equipment. At the same time, increase of production capacities of the local coal mines from a few tens of thousands of tons or about a hundred thousand tons to a few hundred thousand tons can be achieved through reconstruction in stages and by groups. The production capacities of the more than 1,000 small commune and brigade coal mines with better requirements, out of the total of over 2,000 such mines, may be increased to one hundred thousand tons or even two to three hundred thousand tons through integration and reconstruction. If work in these areas is properly carried out, it will be possible to effectively push forward the rapid development of coal production in accordance with the economic construction requirements of our province.

The construction of the coal energy resource and heavy chemical industry bases will also be extremely favorable to the development of other related industries. In the coal producing countries of Europe and the American continent, the percentage of washed coal is generally around 70 percent. In the Soviet Union, it is around 50 percent. In our country, it is about 17 percent. However, in our province, it is only 8.6 percent. If our raw coal washing rate is increased to our national level, it will not only increase accumulation by 100 million yuan but also reduce the transportation of more than 6 million tons of coal. The development of the coal chemicals industry alone (such as coking, gasification, and liquefaction) to transform coal into products of higher value and wider sales outlets (such as synthetic fibre, synthetic plastics, synthetic rubber, chemical fertilizers, and other light and textiles and agricultural-use products) will increase production value by several billion yuan. At the same time, transportation volume can be reduced greatly. The development of the electric power industry, changing coal into a secondary energy source, will make it possible for large quantities of coal to be consumed locally and reduce pressure on rail transport. This undoubtedly will also multiply the production value.

If by the year 2000 generating capacity is increased to 150 billion kw's the transport of coal can be reduced by over 40 million tons and production value can be increased by several billion yuan. Steel, iron, copper, aluminum, and calcium carbide are important raw material industries in our province and they are also industries of high energy consumption. The availability of coal and electric power will promote the development of these industries.

Compared to the advanced provinces and municipalities, the production technology of our existing industrial enterprises is relatively backward. A very major part of the technical equipment remain at the level of the 1950's and 1960's, or even the 1930's and 1940's. If we utilize our superior positions in coal, iron and steel, copper, and aluminum, strengthen our technical and economic cooperation with our sister provinces and municipalities, strengthen technical training and intelligence development, and accelerate the technical reconstruction of existing enterprises to modernize technology and equipment, the production capacity and economic benefit of a large number of plants and mines will increase on a large scale, the consumption of energy and raw materials will decrease greatly, and a new flourishing and favorable situation will appear in the entire industrial production.

As long as we are not afraid of difficulties and dangers and good at utilizing our hard labor and intelligence, it will be entirely possible for us to accomplish our objective.

5974

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ECONOMIC PLANNING

HUBEI DEPUTIES SUPPORT ZHAO REPORT ON PLAN

OW191201 Beijing XINHUA Domestic Service in Chinese 0041 GMT 8 Dec 82

[Excerpts] Beijing, 8 Dec (XINHUA)—The Hubei Provincial delegation to the Fifth Session of the Fifth NPC held group meetings in the past few days to discuss Premier Zhao Ziyang's report on the Sixth 5-Year Plan. The deputies felt that the targets set in the report are safe and appropriate, the measures are effective, and the prospects are heartening. They are determined to do a good job in all fields of work to ensure the successful fulfillment of the Sixth 5-Year Plan.

Deputy Han Ningfu said: The series of principles concerning the Sixth 5-Year Plan in Premier Zhao Ziyang's report are put forward on the basis of eliminating the "left" mistakes and according to the objective laws of economic development, a summing up of experiences in implementing the principle of readjustment, restructuring, consolidation and improvement in the past few years. The fulfillment of the plan will be of great significance for laying a good foundation, accumulating strength and ushering in a new period of economic renewal. [passage omitted]

Deputy Lin Muxen said: The Sixth 5-Year Plan is a plan for steady development in the course of readjustment, a plan to lay the foundation for quadrupling our gross annual industrial and agricultural output value. [passage omitted]

Deputy Zhang Xiulong said: Premier Zhao Ziyang pointed out in his report that sustained and all-round upsurge in agricultural production and prosperity in the rural areas are the important foundation for the continuing improvement of the whole country's economic situation as well as political situation. Practice of many years has proved that so long as the situation is good in the rural areas, initiative will be gained in all work, and the situation will also improve in all other fields. At present, the situation is encouraging in the rural areas. Grain output has increased, economic diversification has developed, and market supply has improved. Hubei has called for increasing grain output to 38 billion jin for many years, and that goal has been achieved this year.

Deputy Hu Hengshan said: The main manifestations of the excellent current rural situation are that agricultural production is developing in an all-round way and contributing increasingly more to the state, that the peasants'

income has generally increased, their livelihood has greatly improved and their enthusiasm for production is growing higher and higher, and that the rural cadres feel reassured. [passage omitted]

Deputy Gao Xiuqin said: Structural reform of the economy is indeed an important guarantee for better economic results and achieving socialist modernization. [passage omitted]

Deputy Liu Huinong said: To enliven commodity circulation, the work should also begin with structural reform. [passage omitted]

Deputy Li Guping said: Premier Zhao Ziyang in his report attached strategic importance for economical renewal to progress in science and technology. This is very correct. [passage omitted]

In their statements, deputies Lu Jianxun, Gui Shicheng, Huang Dezhong and Huang Yongkai said: By speaking highly of Comrades Jiang Zhuying and Luo Jianfu in his report, Premier Zhao Ziyang has given an example for us intellectuals to learn from and also expressed the solicitude of the party and government for the intellectuals.

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ECONOMIC PLANNING

TIANJIN NPC DEPUTIES DISCUSS ZHAO'S 5-YEAR PLAN

OW191434 Beijing XINHUA Domestic Service in Chinese 1147 GMT 9 Dec 82

[Excerpts] Beijing, 9 Dec (XINHUA)--During the past few days the deputies from Tianjin attending the Fifth Session of the Fifth NPC have conscientiously examined Premier Zhao Ziyang's report on the Sixth 5-Year Plan and Minister Wang Bingqian's report on the state budget. They have unanimously endorsed these two reports. [passage omitted]

Deputy Chen Weida said: The Sixth 5-Year Plan is a realistic and scientific plan with an emphasis on improving economic results. Its implementation would lay a good foundation for invigorating China's economy. To fulfill this plan, Tianjin Municipality should do the following work well.

1. We must ideologically attach great importance to the improvement of economic results, rely on our progress in science and make science and technology serve production. We must simultaneously develop our economy, science and society.
2. We must rely on the workers, peasants and intellectuals and closely combine their strength. We must earnestly implement the policy on intellectuals and bring into full play the active role of the three basic forces of workers, peasants and intellectuals.
3. We must make use of the favorable conditions in coastal cities to strengthen ties with foreign countries in the fields of economy and technology. [passage omitted]

Deputy Yang Jianbai said: The Sixth 5-Year Plan is comprehensive with an emphasis on all main points. It is a reliable plan that opens up a broad avenue for our progress. Paying attention to material production, it also stresses the need for the development of spiritual civilization and the improvement of the people's livelihood. It will help China embark upon a new road for sound development. [passage omitted]

Deputy Yang Xiufeng said: Intellectuals must be organized to serve production and coordinate with each other in tackling key problems. Intellectuals must think about how to fulfill this major task. [passage omitted]

Deputy Min Enze said: It is necessary to conduct research work in the course of production. We must go to the lower level to understand the actual situation and organize scientists and technicians to tackle key problems in factories. To tackle key problems we require coordination and strengthen unity and coordination among all intellectuals.

Deputy Chen Jingren said: Intellectuals are greatly inspired because their status has been raised. However, we must not attach importance to money or official titles; we must attach importance to contributions and learn from Comrades Jiang Zhuying and Luo Jianfu.

Deputy He Binglin said: To fulfill the task for socialist modernization we must accelerate the training of competent people. To achieve this we must strive to raise the quality of teachers. At the same time, we must pay attention to tapping the potential of existing institutions of higher learning and admit more students. [passage omitted]

Deputy Wang Enhui said: Our experience in the past 2 years shows that the Sixth 5-Year Plan is positive, reliable and feasible. The situation in Tianjin is as favorable as that in the whole country. In 1981, Tianjin had overfulfilled its targets: its total industrial output value increased by 6.5 percent. Within this figure, the growth of light industry in the city increased by 10 percent, which has rarely happened in many years. The industrial output value from January to October this year has increased by 6.8 percent as compared with the same period last year. It is estimated that the city will overfulfill its target of achieving the annual rate of growth of 6 percent. [passage omitted]

During discussion, deputies Su Zhuang, Zhang Chuyang, Rong Xuezhen, Cao Shiqi, Wang Fengru, Zhu Xianyi, Fan Quan, Ou Tangliang, Gu Kangle, Mao Henian, Yin Baohua and Dia Nianci also enthusiastically offered suggestions on readjusting the institutions of higher learning, training postgraduate students, developing the work study program, doing a good job in applied research and developing research work, strengthening work of disseminating scientific knowledge in rural areas, making primary education universal in the countryside, improving medical and health work, reorganizing cadres in state organs, strengthening construction work in power industry and reforming the price system.

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ECONOMIC PLANNING

HEBEI NPC DEPUTIES DISCUSS ZHAO ZIYANG REPORT

OW181529 Beijing XINHUA Domestic Service in Chinese 0717 GMT 8 Dec 82

[Excerpts] Beijing, 8 Dec (XINHUA)--Deputies from Hebei attending the Fifth Session of the Fifth NPC have conscientiously discussed Premier Zhao Ziyang's report on the Sixth 5-Year Plan in the past few days. [passage omitted]

NPC Deputy Li Bingyan said: The Sixth 5-Year Plan is the first major measure to achieve the grand objective for the next 20 years. Hebei Province has already made initial calculations according to the arrangements made in the Sixth 5-Year Plan and the objective of "quadrupling the gross annual value of industrial and agricultural production": we plan to increase the gross value of industrial and agricultural production at an average rate of 5.7 percent a year in the first 10 years and at an average rate of 8.7 percent a year in the second 10 years. By the end of this century, our province's gross annual value of industrial and agricultural production will be 133.2 billion yuan, an increase of three times compared with 1980. As long as we do our work well, this plan can be carried out. [passage omitted] From now on, we must further follow the correct guiding principles for economic work and shift the emphasis of economic work to the improvement of economic results. In agriculture, we should keep improving the agricultural production responsibility system, do a good job in grain production, developed a diversified economy and sideline production, step up scientific research for agricultural purposes and popularize achievements in this regard. At the same time, we should do a good job in the production and saving of energy, attach importance to the training of qualified personnel and take effective measures to develop science and technology.

NPC Deputy Jiang Yizhen said: The Sixth 5-Year Plan set forth in Premier Zhao Ziyang's report is practical, attaches importance to economic results and stresses the constant improvement of people's livelihood with the continuing development of production. This is conducive to mobilizing the enthusiasm of the masses.

NPC Deputy Guo Zhi said: During the Sixth 5-Year Plan period, we should continue to implement the policy of readjustment, restructuring, reorganization and upgrading, put the economy in order, consolidate leading bodies and practice and gradually improve various forms of responsibility systems. At the same time, we should step up technical transformation, cease to turn out backward products and cease to use backward techniques step by step and work out specific, feasible measures for the development of technology suited to our province's special characteristics. [passage omitted]

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ECONOMIC PLANNING

XINJIANG NPC DEPUTIES DISCUSS ZHAO'S 5-YEAR PLAN REPORT

OW190628 Beijing XINHUA Domestic Service in Chinese 0320 GMT 8 Dec 82

[Excerpts] Beijing, 8 Dec (XINHUA)--The deputies from Xinjiang attending the Fifth Session of the Fifth NPC have warmly discussed Premier Zhao Ziyang's report on the Sixth 5-Year Plan and Minister Wang Bingqian's report on the state budget. Citing the achievements in economic development and other fields of construction attained by the whole country and Xinjiang Autonomous Region in the past 2 years, they commented that Premier Zhao Ziyang's report is a realistic report that has a sound basis and combines theory with practice.

Deputy Ismail Amat said: The 12th Party National Congress defined the strategic objective of our country's economic construction. In line with this strategic objective, Premier Zhao Ziyang has set the tasks and measures of the Sixth 5-Year Plan. The plan is basically sound and will certainly be fulfilled. The conditions in Xinjiang will make this point clear. This year, Xinjiang has experienced abnormal weather conditions and has suffered natural disasters in the form of windstorms, hailstorms and droughts. Despite these disasters and although the region's total sown acreage has been reduced by 790,000 mu, total grain output is expected to exceed 78 billion jin, an increase of about 100 million jin over last year. A special feature of the livestock industry this year is that the proportion of fullfledged dams has risen by a big margin. [passage omitted] The region's total number of livestock in pen is expected to reach 29 million head, the highest in the past few years. This year, the number of trees planted throughout the region, both in quality and survival rate, are unprecedented in history. By the end of October, the region's total industrial output value had increased 8.72 percent over the same 1981 period, of which the output value of light industry rose 11.99 percent and that of heavy industry was up 6.12 percent. Outgoing freight has been increasing as transport services improved.

In recent years, many countries around the world have been beset with economic difficulties, and quite a number of them have been plagued by serious economic recession. In contrast, China's economy is flourishing. This fully attests to the superiority of the socialist system in our country and to the correctness of the line, principles and policies pursued since the 3d Plenary Session of the 11th CPC Central Committee. The people of all nationalities in Xinjiang wholeheartedly support the Sixth 5-Year Plan, will do their work

conscientiously and strive to achieve greater results in the next 3 years of the plan.

Deputy Amudun Niyaz said: The Sixth 5-Year Plan is inspiring because it embodies the concrete measures for realizing our grand objective. Why have big changes taken place in the past few years in our country, where the skies are still the same skies, the land is still the same land, the people are still the same people and the natural conditions have remained the same? Because the party central committee pursues a correct line. This year, an unprecedentedly excellent situation of political stability and economic prosperity has emerged in Xinjiang. The region's grain production has increased by more than 100 million jin; cotton has risen by 720,000 dan; the oil-bearing crops target has been overfulfilled by 220,000 dan; sugarbeet output has increased by 2.41 million dan. [passage omitted]

These achievements have been possible because this year Xinjiang has resolutely implemented the line, principles and policies of the 3d Plenary Session of the 11th Party Central Committee, implemented the guidelines of the 12th Party National Congress and carried out the party's nationality policy. [passage omitted]

Deputy Zeng Jifu said: Premier Zhao Ziyang said in his report that it is necessary to strictly control the general scale of investment in fixed assets. All areas must fully adhere to this principle. Xinjiang has scaled down its capital construction in accordance with the policy of readjustment, restructuring, reorganization and upgrading. The marked changes in the ratio of capital construction have assured the fulfillment of key projects and plans. [passage omitted]

Bi Hua, female deputy of Kazakh nationality, said: Our country will become strong so long as we act according to these two reports. In our Barkol Kazak Autonomous County, people who make their living by "eating from the same big pot" have found that, since the adoption of the system of responsibility for agricultural production, they could no longer drift along aimlessly. Those people who work hard have been able to increase their income gradually, and their life has been improving. In addition to owning some private livestock, some households have received 30 head of sheep and 7 to 8 camels as the prize for overfulfilling production. Premier Zhao Ziyang said in his report that it is necessary to do away with the old convention of "eating from the same big pot." This is very good, Kazak herdsmen resolutely support this point.

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ECONOMIC PLANNING

NPC DEPUTIES DISCUSS SIXTH 5-YEAR PLAN

OW181358 Beijing XINHUA Domestic Service in Chinese 1408 GMT 7 Dec 82

[Excerpts] Beijing, 7 Dec (XINHUA)--In their examination and deliberation of Premier Zhao Ziyang's report on the Sixth 5-Year Plan, deputies attending the Fifth Session of the Fifth NPC held that the four measures presented in the report--effectively manage and make good use of all fixed assets authorized by the plan, resolutely readjust and consolidate existing enterprises, vigorously promote the progress in social production technology and reform the existing economic system--scientifically summarized the historical experiences, conformed with the overall actual condition of present national economy and reflected the requirements of the objective laws in economic construction. The key to fulfilling the national economic development plan in the Sixth 5-Year Plan lies in switching the entire economic work to the course that emphasizes better economic results. To achieve this, we should conscientiously implement the four measures mentioned above.

The Key Projects Should Be Guaranteed in Making Investments in Capital Construction

Zhang Zuoyin, vice chairman of the Anhui Provincial People's Congress Standing Committee, said: Premier Zhao Ziyang pointed out that the key capital construction projects should be guaranteed. This is very important. If we follow this guideline, economic construction will pick up speed and yield better results. Otherwise, it will suffer setbacks. [passage omitted]

Success in Enterprise Consolidation Is an Important Link for Achieving Better Economic Results

Many deputies pointed out that consolidating existing enterprises in an urgent task. It has been proved in practice that enterprise consolidation will yield marked economic results without the need for large investment. [passage omitted]

Meng Dongbo, NPC deputy and vice governor of Sichuan Province, also touched on the topic of "consolidation yields good results." According to the statistics for January-September this year, the first batch of 457 enterprises in Sichuan that had carried out consolidation increased industrial output value by 15 percent, yield 14.3 percent more profits, delivered 8.2 percent

more profits to the state, lowered production costs by 0.2 percent and accelerated turnover rate of circulating funds by 6.3 percent as compared with the same period last year.

The Key To Developing Economy Lies in Reliance on Scientific and Technological Advance

Yang Shutang, NPC deputy and advisor of the Anshan Iron and Steel Company, said: As an enterprise of more than 60 years, the Anshan Iron and Steel Company will find no way out if it does not rely on science and technology to carry out transformation. [passage omitted] Han Zheyi, NPC deputy from Shanghai, also addressed the meeting on the need to systematically upgrade equipment and carry out technical transformation in selected units of the more than 8,000 existing enterprises in Shanghai. He said: During the period of the Sixth 5-Year Plan, technical transformation in Shanghai should be carried out in coordination with industrial readjustment and reorganization, should aim at lowering the consumption of energy and raw and semifinished materials and should vigorously adopt advanced technologies at home and abroad. First we must make the major technical and economic targets of machine building, textile, electronics, automobile and building material industries reach advanced standards at home and abroad as soon as possible.

Yu Mingtao, NPC deputy from Shaanxi, said: Only by promoting and adopting advanced technology on an extensive scale can we lay a solid foundation for revitalizing the economy. In the future, Shaanxi Province should: 1. Bring together all scientific and technical forces; 2. Organize efforts to solve crucial problems in developing economy; 3. Pay attention to popularization and application of scientific and technical results; 4. Conscientiously implement the policy toward intellectuals to arouse the enthusiasm of scientists and technicians.

The Economic System Must Be Reformed

Almost all deputies from all places have this impression: consolidating the enterprises, promoting technical transformation, enlivening the economy and many other works at present involve the economic system, which should be reformed, otherwise it is hard to make headway. Han Ningfu, NPC deputy from Hubei, talked about the experimental reform of the economic management system in Shashi Municipality. He said: We first laid down four principles of reform on the basis of investigations and studies: 1. Emphasize centralization, change the situation in which one department overlaps the other; 2. Reasonably divide the work of the administration and the enterprise so that units that conduct independent economic activities gradually become economic entities; 3. Provide the comprehensive economic management departments with adequate personnel and expand the powers of enterprises; 4. Reduce the number of office workers and improve the structure of cadres' formation. After the reform, the number of mayor and vice mayors was reduced to five from eight and the number of commissions, offices and bureaus of the municipal government was reduced to 30 from 66. Meanwhile, supervisory organs of basic-level enterprises were also reformed. Now the leading bodies of enterprises are more competent, seldom quarrel over trifles and have a higher sense of responsibility and work efficiency.

At the meeting, Han Peixin, NPC deputy, gave an inspiring report on Jiangsu Province's reform plan. The province will combine the reform of administrative and economic systems and gradually establish a system which will have the cities as the centers, rural areas as the foundation and townships as the links and which will facilitate a coordinated development of economy, culture and science. Han Peixin said: Without this reform, repetitious construction would be inevitable, overlapping organs would be hard to abolish and channels of communication would be impeded. First we plan to abolish four prefectures, retain three prefectures for the time being and change one prefectural municipality into a municipality under the provincial jurisdiction. The countries under the four prefectures to be abolished will be designated to eight municipalities under the provincial jurisdiction. Urban and rural areas will be integrated and the municipality will supervise the country. These reforms will facilitate simplification of administration, integration of urban and rural areas, establishment of reasonable enterprise organization and distribution of productive forces, and achievement of better economic results for the society.

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AGGREGATE ECONOMIC DATA

PROBLEMS IN USE OF CONSTANT PRICES FOR INDUSTRIAL PRODUCTS

Beijing TONGJI in Chinese No 5, 17 Oct 82 pp 12-14

[Article by the Transport and Supply Statistics Department of the State Statistical Bureau: "Several Problems Concerning the 1980 Constant Prices for Industrial Products"]

[Text] Since the founding of the People's Republic, we have all along used the method of constant prices for industrial products as a means of eliminating variations in the total industrial output value. We have so far compiled such constant prices four times, namely, in 1952, 1957, 1970 and 1980.

Why has it been necessary to compile constant prices for industrial products in 1980? The reason is that 10 years have elapsed since the 1970 constant prices were used for industrial products in 1971. During these 10 years, the factory prices of many industrial products have been readjusted and there are fairly large discrepancies between the 1970 constant prices and the current factory prices. For example, the current factory prices of electronic industrial products, after many readjustments, were approximately 40-50 percent below the 1970 constant prices, and those of farm machines are approximately 10 percent less. The factory prices of pharmaceutical products have been readjusted many times too. Again, the then current prices of timber products were approximately 50 percent higher than the constant prices of 1970, and those of coal and oil industrial products were also higher. At the same time, along with the development of production technology and the improvement of people's livelihood, there have been large increases in new products and new varieties. For example, new products like TV sets, taperecorders, pocket calculators, refrigerators and air conditioners have increased rapidly and for these new products and new varieties, no constant prices were compiled in 1970. Therefore, the constant prices for industrial products compiled in 1970 could not correctly reflect the actual conditions of industrial production. In view of this, the relevant departments thought of using factory price indices or using the prices of the previous year to calculate the total industrial output value of the current and the previous year, in order to eliminate the element of price variations. However, these methods not only required theoretical study and exploration but also necessary preparations would take a long time. That was why the State Planning Commission, the State General Administration of Prices and the State Statistical Bureau decided to compile the constant prices for industrial products in 1980 as the basis for calculating the total industrial

output value during the Sixth Five-Year Plan by the planning departments, statistics departments, industry administration departments, and the various industrial enterprises; and these constant prices were to be used for compiling annual industrial statistics reports beginning 1981.

According to the data contained in the 1981 statistics report on industry, the newly compiled 1980 constant prices for industrial products basically reflected the factory prices of these products in the same year. The constant prices for nationwide use were printed in 39 volumes, containing more complete and detailed information on the varieties and specifications than ever before. The following questions were considered in compiling the 1980 constant prices for industrial products:

1. What time should be chosen for factory prices to be used as the basis for compiling constant prices? In principle, the constant prices this time were based on the factory prices on 1 January 1980, including the factory prices stipulated before 1980 but still in force on 1 January 1980. As to those products whose factory prices had been readjusted in 1980, such as pig-iron, motor cars, some steel materials, chemical-industrial products, building materials and so forth, the constant prices were based on the adjusted factory prices. By this means, the newly compiled constant prices will be able to reflect more accurately the factory price level of industrial products in 1980. The factory prices of timber products were fairly drastically readjusted in early 1981, and the constant prices were based on the readjusted factory prices in 1981. This is a special arrangement for individual products.

2. Three sets of constant prices--namely the constant prices for nationwide use, for regional use and for use by enterprises--were compiled for industrial products in 1980 according to the positions occupied and the roles played by these products in the national economy. For the important industrial products of national significance, the relevant departments of the State Council were responsible for compiling their constant prices for national use. The constant prices for products that were important to their own regions and were not intended for national use were compiled by the statistics bureaus of various provinces, municipalities and autonomous regions in collaboration with the relevant departments, for their own regional use. The constant prices for other products which were neither for national nor for regional use were compiled by the enterprises for their own use. Since the output value represented by the constant prices for both national and regional use amount to a very high proportion of the total industrial output value, the data of the total industrial output value based on this proportion can be basically used for comparisons between different departments and different regions.

3. Compilation of constant prices for industrial products is based on their factory prices which include their production costs, profits and taxes. Here two factors should be considered: First, some products, such as tobacco and liquor, are heavily taxed. Should the total taxes be included in the constant prices? We feel that since the factory prices include all the taxes paid, the constant prices should also include all these taxes. Some elucidation is necessary on this point. Although salt taxes are levied on crude salt from the distributing departments at different rates according to different customers, they are nevertheless a type of industrial tax. Therefore, in compiling

the constant price of crude sale, we should take into account the production costs and profit as well as an average tax. Second, for some products (such as the industrial products processed from grain and edible oil), no readjustment has been carried out on their factory prices even though their procurement prices have been raised (and the losses thus incurred are subsidized by the state or the relevant departments). Under such conditions, should the constant prices be based on their factory prices or should the subsidies be also taken into account when these constant prices are compiled? Some comrades held that the constant prices should be based on the prices after processing which include the procurement prices. We feel that according to this method of calculation, the inclusion of subsidies for losses in the nature of redistribution in the prices will make the prices of industrial products, processed from grain and edible oil, unduly high. This method thus cannot reflect the actual situation of prices for industrial products processed from grain and oil. In compiling the constant prices for these products in 1980, therefore, we still adopted the 1970 method which was based on the factory prices. Similar problems existed for textile and leather products. In compiling the 1980 constant prices, we also used the factory prices as the basis without taking into account the subsidies for the raw material prices of a redistribution nature.

4. Should there be independent constant prices for export products? Some comrades held that the constant prices for export products should be based on the prices used actually in the settlement of foreign trade accounts. In our opinion, since the prices actually used in the settlement of foreign trade accounts change along with the changes in the prices of commodities on the international market, and many commodities are subsidized in foreign trade, the domestic price and the actual foreign trade accounts settlement price for the same product can be very different, and because of other factors, the indiscriminate use of foreign trade accounts settlement prices as constant prices will not be able to correctly reflect the quantitative changes of material objects. Therefore, the constant prices for export products should be handled differently under two different conditions. First, if the demands on the quality, technology and packaging for products of the same model and specification for both exports and domestic consumption are the same, the factory prices for domestic sales should be used as the constant prices. Second, if there are special demands on the quality, technology and packaging for exported products, then a certain proportion of price differential should be added to the factory prices for domestic consumption are the same, the factory prices for domestic sales should be used as the constant prices. Second, if there are special demands on the quality, technology and packaging for exported products, then a certain proportion of price differential should be added to the factory prices for domestic consumption in compiling the constant prices. By this means, we will be able to adhere to the principle that there should be one constant price for the same type of product as well as to meet the requirement of high price for high quality.

5. There is the question of conversion coefficient for constant prices. There can be no direct comparison for total industrial output values calculated according to constant prices of different times. Common constant prices, derived from conversion should be used before such a comparison is possible. In

order that the total industrial output calculated according to the 1980 constant prices could be compared with the total industrial output value calculated the 1981 annual statistics report on the industrial output value, we had the statistics data on the total industrial output values based on both the 1970 and the 1980 constant prices, and were thus able to obtain the conversion coefficient for both the 1970 and the 1980 constant prices. If we want to compare the total industrial output value based on the 1952 constant prices with that based on the 1957 constant prices, we can work out the conversion with the conversion coefficient of the constant prices at different periods.

For example, if we want to convert the total industrial output value of 1952, based on the constant prices of the same year, into the total industrial output value of 1952 calculated according to the 1980 constant prices, the method of conversion is as follows:

$$\begin{array}{l}
 \text{1952 total industrial output value} \\
 \text{based on 1952 constant prices} \\
 \\
 \text{1957 total industrial output value} \\
 \text{based on 1957 constant prices} \\
 \times \\
 \hline
 \text{1957 total industrial output value} \\
 \text{based on 1952 constant prices} \\
 \\
 \text{1971 total industrial output value} \\
 \text{based on 1970 constant prices} \\
 \times \\
 \hline
 \text{1971 total industrial output value} \\
 \text{based on 1957 constant prices} \\
 \\
 \text{1981 total industrial output value} \\
 \text{based on 1980 constant prices} \\
 \times \\
 \hline
 \text{1981 total industrial output value} \\
 \text{based on 1970 constant prices} \\
 \\
 = \text{1952 total industrial output value} \\
 \text{based on 1980 constant prices.}
 \end{array}$$

In using the conversion coefficient of constant prices, the comprehensive statistics departments at all levels should use as much as possible the conversion coefficient of the branch departments in order to avoid the effects of changes in the departmental structure on the figures of the total industrial output value.

9411
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AGGREGATE ECONOMIC DATA

INCLUSION OF TEAM PRODUCTION IN GVIO FIGURES URGED

Beijing TONGJI [STATISTICS] in Chinese No 5, 17 Oct 82 pp 18-20

[Article by Xu Shugeng [1776 0647 6342] and Li Linjie [2621 2651 2638] of Hebei University: "Value of Industrial Output of Production Teams Should Be Included in the Gross Value of the Industrial Output"]

[Text] For many years, the gross value of our agricultural output has included the production value of agriculture, forestry, animal husbandry, subsidiary products and fisheries. This method of computation has had a positive effect on the work of planned statistics in our country. However, as a result of the continuing development of our national economy, certain flaws have revealed themselves in this method of computation both in theory and in practice. Unless changes are made in time, certain difficulties will arise in our work in the economic field. We would like to offer our humble opinions on the place which the value of the industrial output of production teams should occupy in the computation of the gross value of agricultural products.

The question of where the value of the industrial output of the production teams should belong is in essence a question of where a line should be drawn between the industrial and agricultural sectors. According to "the Schedule for the Computation of the Gross Value of Agricultural Products" announced by the State Statistical Bureau in 1960, the industrial output of the production teams below the level of people's communes in the rural areas is to be computed under the heading of agricultural products and the value of their output is to be included in the value of sideline products which constitute part of the gross value of agricultural products. For purposes of convenience, there is nothing wrong with this method of computation when the number of production team industries is within manageable limits. However, in a situation marked by a sluggish increase in agricultural production and a rapid development of the production team industries, numerous contradiction will arise which do not lend themselves to easy solution if the gross value of the agricultural output continues to be computed to the existing method.

First, the index of the gross value of the agricultural output does not accurately represent the total value of agricultural products being put to use. The gross value of agricultural products is arrived at by using their

value as an index to reflect the gross value of the entire range of agricultural products and the purpose of computing the gross value of agricultural production is to arrive at a composite picture of the aggregate results of agricultural production. However, when the value of the industrial output of production teams begins to represent a considerable part of the gross value of agricultural production, the gross value of agricultural products not only fails to present a composite picture of the aggregate results of agricultural production, but would, on the contrary, create a false picture of the actual scale and level of agricultural production. Taking only Hebei Province as an example, the value of sideline products prior to 1969 constituted less than 5 percent of the gross value of the agricultural output. The value of the industrial output of the production teams, because of their limited scope, scale and amount, had little effect on the figure representing the gross value of the agricultural output. Since 1975, however, as a result of the rapid development of production team industries, the value of their industrial output made a dramatic rise in proportion to the gross value of the agricultural output. From 1975 to 1980, it rose to 13.1 percent, 16.6 percent, 24.5 percent, 24.9 percent and 23.7 percent of the gross value of the agricultural output. In 1980, the value of the industrial output of the production teams in Langfang, Cangzhou and Hengshui Prefectures rose to 46.4 percent, 45 percent and 43.7 percent respectively of the gross value of the agricultural output. The major industries engaged in by the production teams include mining, smelting, casting, the processing and manufacturing of machinery, plastic products, rubber products, glass products, chemical dyes, paper making, textiles, embroidery, needlework, food, etc., which encompass virtually the entire range of industrial production. According to statistics, only 17 percent of the value of the industrial output of the production teams is used to promote agricultural production, while the major part is made up of industrial products used to promote the big industries in the cities and the development of the export trade. Under such circumstances, the gross value of the agricultural output computed according to the "schedule" is in actual fact "the gross value of industrial and agricultural products" in that it reflects not only the total amount of the agricultural output and the total achievement of agricultural production, but the total amount of the industrial and agricultural output and the total achievement of industrial and agricultural production.

Second, the total value index of agricultural production cannot accurately reflect the level of agricultural production and the speed of its development in a nation or area. The development of agricultural production is, to a large extent, limited by such natural factors as weather and geographical conditions, so that the speed of development of agricultural production is generally lower than that of industrial production. To put the industries of the production teams which properly belong to the industrial sphere under the agricultural sphere would arbitrarily exaggerate the level and speed of agricultural production. Comparing the speed of agricultural development of the various areas with different industrial foundations with the speed and level of development of the production team industries would invariably distort the true picture of

the development of agricultural production in the various areas and make it impossible to accurately assess the achievement of agricultural production in the various areas and how well the work is being done. Taking the agricultural development in some of the prefectures in Hebei Province as an example, Cangzhou and Hengshui are way behind Shijiazhuang, Handan and Tangshan insofar as the level of various single-crop production, total production and the rate of increase are concerned. However, if the gross value of agricultural output is assessed according to the schedule now in use, the rate of increase in agricultural production in those prefectures in 1980 compared to 1957 would be as follows:

Prefecture	Shijiazhuang	Handan	Tangshan	Cangzhou	Hengshui
Times of increase	3.06	2.37	2.50	3.31	2.32

The chart would seem to indicate that the speed of development of agricultural production is fastest in Cangzhou, followed in that order by Shijiazhuang, Tangshan, Handan and Hengshui. However, a distinctly different result is shown if the value of sideline products¹ is deducted from the gross value of agricultural products:

Prefecture	Shijiazhuang	Handan	Tangshan	Cangzhou	Hengshui
Times of increase	2.79	2.13	2.43	1.91	1.42

This chart indicates that the speed of development in agricultural production is fastest in Shijiazhuang and that Cangzhou is next to last among the prefectures.

There can be no doubt that the second chart is a truer reflection of the state of agricultural production development than the first.

Third, the gross value of the industrial output cannot fully reflect the true picture of industrial production of a nation or area. The production team industries were originally included in the agricultural sphere mainly because of the small scale of production, the lack of any definite limit in the number of workers and in production schedules, the low standard of operations management and the lack of an independent system of economic auditing. Furthermore, insofar as the range of products was concerned, the production team industries were at the time engaged mainly in the production of subsidiary products for their own use, processing, the repair of farm tools and the production of indigenous chemical fertilizers so that the value of their products made up a very small percentage of the gross value of the entire range of the agricultural output.

1. Since the value of the production team industrial output was not included in the value of industrial products prior to 1971, the entire value of sideline products is excluded from the chart. In 1980, the value of production team industrial products came to 93.9 percent of the value of sideline products in Hebei Province.

Under such circumstances, it was not entirely unjustifiable to incorporate the production team industries temporarily into the agricultural sector for statistical purposes. However, the production team industries have since undergone vast changes in point of scale, the amount of production and scope, and bear little resemblance to the situation that prevailed 10 or 20 years ago. Taking only Hebei Province as an example, while the gross value of industrial output in 1980 amounted to 21.23 billion yuan, the value of the production team industrial output outside the sphere of industrial production came to 2.17 billion yuan, an amount equivalent to 10 percent of the gross value of the industrial output at the present time. In particular, the value of the production team industrial output of the three prefectures of Langfang, Hengshui and Shijiazhuang constitutes 61.8 percent, 48.3 percent and 24 percent respectively of the gross value of the industrial output of those prefectures. The gross value of industrial products cannot obviously reflect the entire picture of industrial production if it does not take into account the value of the industrial output of the production teams. To study the structure, the rate of development and the ratio of industrial and agricultural production without taking into account the gross value of the agricultural output of the production team industries would misrepresent the objective facts and lead to errors in the work of leadership and planning in the economic field.

Fourth, at a time when the value of industrial products turned out by the production teams is continuing to increase, to assess the net value of products on the basis of the consumption of materials required for the production of agricultural products would tend to magnify the amount of the national income. In the absence of facts and figures, some departments and units often arrive at the net value of the agricultural output by deducting a certain proportion of materials consumed from the gross value of agricultural products and use it as a means to arrive at the net [agricultural] output value. However, the ratio of consumption of materials in industrial production differs from that in agricultural production. Generally speaking, there is a wider gap in the transfer value ratio of the materials used for industrial production and there is more multiple computing the value of the products. As a rule, the ratio of material consumption in industry is around two-thirds of the value of the product. In agricultural production, where the transferred value of materials is relatively low and there is less multiple computing of the value of agricultural products, the ratio of material consumption generally comes to about one-third of the value of products. Taking Hebei Province as an example, the transfer value of materials comes to 65.2 percent of the gross value of the industrial output in 1980, while that in agricultural production comes to only 35.3 percent. To compute the gross value of agricultural products by the consumption of materials required to produce agricultural products and to use it to arrive at the national income would obviously lead to an arbitrary overstatement of the amount of the national income.

Fifth, computation of the gross value of agricultural products according to the existing method does not serve the purposes of planned leadership and planned management of the production team industries in that it is not in line with industrial and commercial management, taxes, credit loans, commercial operations and foreign trade. At present, the production team industries are accorded treatment by the industrial and commercial, tax, credit loan and foreign trade departments similar to that accorded other collective industries and enterprises. If, however, the industry and trade bureaus were to require the production team industries and enterprises to be registered, if the tax departments were to require them to pay unified industrial and business taxes and income taxes, and if the banks were to require them to open accounts as industries, then the foreign trade and trade departments would also require them to sign supply and marketing agreements. Since the industrial output of the production teams is incorporated into the agricultural statistics, it is difficult for the various departments to make comparisons and to achieve an overall balance when compiling their materials. Furthermore, the existing method would jeopardize to a certain degree the planned control and supervision over the industrial departments, promote the blind industrial production on the part of the production teams and retard the healthy development of production team industries.

For reasons stated above, we are of the view that the production team industries should be separated from the agricultural sector and that their statistics should be incorporated into industrial statistics. That is to say, the production value of the production team industries should be included in the gross production value of the industries. This not only is dictated by practical reasons, but also is justifiable from the theoretical point of view. The demarcation between industries and agriculture is determined by the basic social features of the production and reproduction of products and certain socio-economic conditions. The special feature of agricultural production is that it is the result of the input of human labor in the nurturing and breeding of animals and plants, whereas industrial production depends on exploitation, mining and forestry, the gathering of natural materials and resources and the processing and reprocessing of various raw materials. It is obvious that, based on the special features of their production, the production team industries belong to the latter. Naturally, in determining the scope of agriculture, we should take into consideration not only the special features of the products, but also the special features which mark the economic relationship among the various productive activities under a certain level in the production capacity in society. For example the production value of those products which are small in scale, which use simple tools, which do not require rigid auditing and which are the results of agricultural production activities, such as subsidiary agricultural products retained by the rural areas for their own use, simple processing and the repair of farm tools and machinery, may continue to be included in the gross value of the agricultural output. However, it would be more appropriate to include the value of the production team industrial output as the value of industrial products if the value of the production team industrial products meets the

following conditions: (1) if the industries have a fixed production location and organized labor; (2) if they are mainly concerned with the production of commercial commodities, including products for the export trade and if they are engaged in undertakings of an industrial nature; (3) if they are engaged in production throughout the year like ordinary enterprises or if they are seasonal enterprises operating over 3 months in a year; (4) if they have an independent system for auditing profits and losses.

According to statistics obtained from investigation and under the conditions listed above, 70 percent of the value of the production team industrial products should be included in the gross value of industrial products, while the remaining 30 percent should, together with other sideline products, continue to form part of the gross value of agricultural products.

It is only by readjusting the value of production team industrial products as suggested above that the gross value of agricultural products can accurately reflect the gross value of agricultural products and agricultural achievements. It is only by adopting this method to study the level of development of agricultural production and to analyze the structure and ratio of industrial and agricultural production that it is possible to accurately reflect the actual state of industrial and agricultural production in their historic development and to provide a reliable basis for the leadership and planning departments at various levels to formulate policies and programs in the economic sector and to exercise their leadership in economic construction.

9621

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FINANCE AND BANKING

FINANCIAL MANAGEMENT IN AUTONOMOUS NATIONALITY REGIONS REPORTED

Beijing CAIZHEN [FINANCE] in Chinese No 1, 5 Oct 82 pp 9-10

[Article by Han Guochun [7281 0948 2504] and Zhao Bokun [6392 0130 0981]:
"Brief Introduction to the Present System of Financial Management in Autonomous Nationality Regions"]

[Text] The financial management system for the autonomous nationality regions has been adopted by the Inner Mongolia Autonomous Region, the Guangxi Zhuang Autonomous Region, the Tibet Autonomous Region, the Ningxia Hui Autonomous Region and the Xinjiang Ujghur Autonomous Region. In view of the considerable number of minority nationalities in Yunnan, Qinghai and Guizhou, the State Council has also decided that in order to promote their economic, cultural, educational and public health development, the financial management system for the autonomous nationality regions should also apply to these provinces.

Since the adoption by the various provinces, municipalities and autonomous regions in 1982 of the financial management system marked by the "separation of revenues and expenditures and the fulfillment of contract obligations at the various levels," there has been a clear separation of revenues and expenditures between enterprises and businesses belonging to the central government and those belonging to the localities. Using the estimated revenues and expenditures for 1979 as base figures, revenues are divided into the fixed revenues of the localities and the adjusted percentage revenues. When the fixed revenues of a locality exceed the expenditures, a certain percentage is paid to the central government, while the entire amount of the adjusted percentage revenues is paid into the national treasury in the form of industrial and commercial taxes. Such regions are known as regions paying a fixed amount of revenues to the state or regions retaining a certain percentage of revenues. A certain percentage of industrial and commercial taxes is retained as adjusted income by those localities whose revenues are not sufficient to cover their expenditures and whose expenditures exceed their fixed revenues. Such regions are known as adjusted revenue regions. As for regions whose expenditures still exceed their revenues despite their fixed income and the retention of the entire amount of industrial and commercial taxes in the form of adjusted income, a fixed subsidy is paid by the state to make up for the deficit. Such regions are known as subsidized regions. Once the ratios for the payment into the national treasury and the adjusted percentage ratios used with the adjusted income and the fixed amount of subsidy are determined, they are in principle to remain unchanged for

a period of 5 years. The localities may increase their expenditures if their income is increased and reduce their expenditures if their income is reduced so as to achieve a balance. According to the arrangement regarding incomes and expenditures described above, the measures regarding financial management in the autonomous nationality regions promulgated in 1963 will continue to be enforced. In computing base contract figures for the minority nationality regions, two improvements have been made on top of the retention of the original preferential treatments; first, the amount of subsidy paid to the autonomous nationality regions, instead of being set every year, is to remain unchanged for 5 years and the contract system is to remain in force. The entire amount of increased income during the 5 years is to be retained and used in a coordinated manner by the autonomous nationality regions; second, in consideration of the need for the development of production and cultural, educational and public health projects in the autonomous nationality regions, the national treasury is to increase the amount of subsidy paid to the autonomous nationality regions by 10 percent every year beginning the first year that the contract is in force. Aside from the two improvements, the following preferential treatments continue to be accorded the autonomous nationality regions:

First, payment of a flexible amount of funds for minority nationality regions. This amount is based on the final expenditures for the previous year minus capital construction funds, circulating funds, investment funds in support of people's communes and relief funds for extraordinary natural disasters and multiplied by 5 percent, and is to be used to meet special needs for economic construction and cultural, educational and public health projects in the minority nationality regions.

Second, subsidies of a general nature for minority nationality regions. This item of expenditure is based on a fixed amount of the national budget every year and is to be used to promote production development, diversified operations, communication and transportation and road repair and maintenance in the remote mountainous border areas.

Third, reserve funds for the autonomous nationality regions are larger than those for ordinary provinces and municipalities. In assessing the reserve funds for the minority nationality regions, the state adds 5 percent to the amount allocated to the autonomous regions, so that the total amount is 2 percent higher than that allocated to ordinary provinces and municipalities, and the reserve funds for autonomous chous and autonomous counties are 1 to 2 percent higher than those for ordinary special regions and counties.

Fourth, the entire amount of the annual surplus revenues of the autonomous nationality regions is retained by the regions for their own use, while the surplus revenues of ordinary regions are shared by the central and local governments in proportion to the amount to be retained by the local governments and to be paid into the national treasury.

In addition to the preferential treatments mentioned above and on top of the base contract figures, the national budget also allocates an annual "development fund in support of the economically underdeveloped regions." Furthermore, the national budget has since 1977 allocated an annual "subsidy for construction projects in the border areas" in support of industrial and agricultural pro-

duction, the repair of commercial network outlets, the maintenance of communications and roads and cultural, educational and public health projects in the border areas. Some 50 percent of these funds is spent in the minority nationality regions.

Furthermore, the state has since 1963 adopted a "three-point policy" to promote the industrial, agricultural, commercial and economic development of the minority nationality regions and to assist the minority trading enterprises in remote mountainous border areas and remote border pasture areas with regard to prices, funds and the retention of profits. First, the state adopts a protective price policy by setting the lowest possible prices for the procurement of certain raw materials and the major agricultural, livestock and special native products and the highest possible prices for selling certain major industrial products. Second, the state allocates working capital to minority nationality trading enterprises in the remote mountainous border areas and pastures 20 to 30 percent higher than that allocated to ordinary minority trading enterprises. Third, the system is enforced permitting the nationality trading enterprises to retain 20 percent of their profits. This ratio was raised to 50 percent in 1980. Over 300 remote mountainous border areas, counties in the pasture regions and banners have adopted this three-point policy, while some 4,000 minority trading enterprises have adopted the system of independent auditing.

In short, the party's nationality policy is fully reflected in the state's financial management, the formulation of the trade system applying to the nationalities and the limits of authority in the levying of taxes. This policy has proved to be beneficial and of great significance. Of course, certain problems remain. It is necessary for us to engage in investigation and research in depth and in an exhaustive manner so that further improvements may be made through the accumulation of practical experience.

9621

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FINANCE AND BANKING

THEORY OF SAVINGS DEPOSITS EXPLORED

Beijing ZHONGGUO JINRONG [CHINA'S BANKING] in Chinese No 21 (4 Nov 82) pp 33-36

[Article by Liu Zhenlu [0491 2182 7120] and Chen Haowu [7115 3185 2976]: "Special Features of Savings Deposits in China"]

[Text] Savings by the people constitutes a major avenue for the mobilization and accumulation of production and construction funds. This article is an attempt on our part to present our views on the laws which govern the savings of the Chinese people for the reference of those who are engaged in the theoretical and practical aspects of the work.

Laws Governing the Steady Increase in People's Savings

There has been a Steady Increase in People's Savings

There has been a steady increase in the people's savings since the establishment of the republic over 30 years ago. Let us take a look at the absolute increase in the surplus savings in the cities and towns and the extent of the increase in individual savings:

Year	Surplus savings in cities and towns (In 100 million yuan)	Year	Rate of individual savings
1952	8.6	-	-
1962	31.4	1974	3.2
1970	64.5	1976	1.9
1975	114.6	1978	4.2
1979	202.6	1979	9.0
1980	282.5	1980	8.86
1981	354.1	-	-

It can be seen from the above that from 1952 to 1981, there was an average progressive increase of 13.01 percent in savings in the cities and towns and a basically steady increase in individual savings.

The view is held by some comrades that the increase in savings may be attributed to the shortage of commercial commodities which can be bought in the market. This raises the question as to whether the steady increase in people's savings

is subject to certain laws which determine its special features. In this regard, we have some definite views for the following reasons:

First, the steady increase in production and the continuous development of the economy are responsible for the increase of savings. In a socialist society, the basic economic laws call for a continuous increase in production and development. That the increase in savings has a close interrelationship with the development of production may be seen from the following chart:

Period	Increase in gross value of industrial and agricultural production	Increase in national income	Increase in savings
"First 5-year"	10.9%	8.9%	12.9%
"Second 5-year"	0.6%	-3.9%	First 3 years 45.5%
			Last 2 years -10.5%
1963-1965	15.7%	14.5%	47.0%
"Third 5-year"	9.6%	8.4%	11.7%
"Fourth 5-year"	7.8%	5.7%	56.3%

It may clearly be seen from the above that there is a relationship between the increase in savings and the increase in production and that the steady increase in production results in a corresponding steady increase in savings.

Second, the steady increase in consumer reserve funds is an important condition for the resulting increase in savings. The mobilization of savings funds depends mainly on the income of the people in the form of wages, including part of the net income. As the national income increases, wages and the net incomes also grow and the amount of savings continues to increase. When the ratio between accumulation and consumption remains unchanged in the gross income of the nation, the consumer funds will increase as the gross national income increases and the income of the people in the cities and rural areas will continue to rise. During the 27-year period between 1952 and 1979, the total amount of the wages of the workers under the public ownership system increased by six and a half times at the average progressive annual rate of 7.9 percent, while the amount allocated to commune members in the rural areas increased by two times between 1957 and 1979 at the average progressive annual rate of 5.3 percent. In recent years, the state, while adjusting the ratio between the state, the collectives and the individuals in the first distribution of the national income, increased the ratio of the individual income of the workers and transferred part of its net income to the peasants through the adjustment of prices. In 1979 and 1980, the state increased the income of the workers by 18.64 billion yuan by offering more employment opportunities, increasing the wages of the workers and paying subsidies in terms of prices, and increased the income of the peasants by 18.04 billion yuan by increasing the prices of subsidiary agricultural products and by reducing taxes in the rural areas or exempting the rural areas from the payment of taxes. The increase in the cash income of the people in the cities and rural areas has resulted in the continuous increase in savings. The increase in savings in the cities and rural areas came to 19.7 billion

yuan, representing an increase of 88.79 percent, or 46.98 percent of the increase in savings in the preceding 29 years.

Third, changes in the makeup of consumption play an important role in the steady increase of savings. In recent years, with the continuous increase in the income of the masses, what they consume tends to be of better quality. According to a survey of 80,000 workers in 44 cities in the nation covering the expenditure on commercial commodities between 1964 and 1980, expenditures increased by 93 percent on food, 220.3 percent on clothing, 215.5 percent on articles of daily use and 645 percent on items of a cultural nature. The figures show that the increased expenditure on clothes and articles of daily use was far larger than that on food. Together with changes in the makeup of consumer goods, there is a greater demand for quality commercial commodities. The demand for quality consumer products has resulted in the extension of the preparatory accumulation period prior to the making of purchases, the lengthening of the savings period and the size of the savings. This is borne out by the large-scale increase in fixed savings deposits among the various types of deposits.

Some comrades may hold the view that the amount of deposits is likely to show an abrupt downturn once the buyers have bought the durable consumer goods that they need following a period of preparation. This line of reasoning, however sound it may seem, is not borne out by facts. The reason is that the saturation point can never be reached in the demand for consumer goods both qualitatively and quantitatively and that there is no end to consumer needs. The improvement in the quality of consumer goods is a continuous process and high quality commercial commodities will become run-of-the-mill consumer goods after a period of time to be replaced by commercial commodities of a higher quality. For example, "the three big items," which used to refer to bicycles, sewing machines and wrist watches, have come to mean television sets, washing machines and refrigerators, and even more expensive commercial commodities are likely to be available in the future. It is because the saturation point in the quality of consumer goods can never be reached that the savings period of deposits for funds intended for making purchases will become extended and the amount of deposits will be increased. This is a process that will continue without interruption.

Of course, there are many factors which contribute to the steady increase in the savings of the people, such as the stability of the political situation and faith in the renminbi. In any case, the steady increase in people's savings is a special feature subject to certain laws. The fear that the amount of savings could vanish like a tiger escaping from its iron cage and that a blow could be dealt to the market is without basis and uncalled for.

Accumulative Nature of People's Savings

Savings funds may in a way be considered consumer funds in that their ultimate purpose is not to collect interest, but to provide the means to meet living expenses. However, from another point of view, when the people in the cities and rural areas put their money in the bank before using it to meet their consumer needs, this sum of money undergoes a temporary and conditional transfer

of the power of usage through the workings of economics. In the process of savings, while the banks continue to absorb the deposits of the people and the people continue to withdraw their deposits from the banks to meet their consumer needs, there will continue to be a steady increase in the balance between the time of deposit and withdrawal. What this means is, first, that savings, by virtue of its special function, serves to a certain degree to adjust and to achieve a balance between accumulation and consumption and, second, it serves the function of turning scattered, idle and short-term consumer funds into stable, centralized and accumulated funds which may be manipulated within a certain period of time. That, in short, is the accumulative nature of savings.

Under normal circumstances, it is easy to understand the accumulative nature of savings. However, opinion differs as to whether savings would continue to have any accumulative value when there is an overissuance of currency and when a gap exists between purchasing power and the supply of commodities. Some comrades are of the view that the increase in the savings of the people really represents the commercial commodities and materials which the state owes to the people and that to use the people's savings for investment purposes would be tantamount to speculation. It is our opinion that this point of view is the result of an incorrect understanding of the accumulative nature of savings. It is necessary, first of all, to have a clear understanding of the factors which lead to the oversupply of money and the short supply of commodities in the market at the present time. The chief factor responsible for this state of affairs is the lack of coordination in the ratio between the production of production materials and the production of consumer products in the past and the unreasonable structure of distribution between accumulation and consumption. After readjustments had been made, the accumulated funds did not show a decline, although consumption registered an upturn. It was because the aggregate amount of accumulated funds and the amount spent on consumer needs exceeded the national income that currency was issued to make up the difference. To deal with the problem of the oversupply of currency in the market, it is necessary, first of all, to make use of the banks to develop savings and to absorb a certain amount of currency in order to facilitate the return of bank notes to the banks and, second, to use the money absorbed by the banks for investment primarily to develop the production of light industrial consumer products of daily use so that the market may have a larger supply of commercial commodities which are in demand. It may therefore be seen that savings can be made to serve two purposes.

Mass Character of People's Savings

The mass character of our people's savings is determined by the following factors:

First, the currency collected from the people in the cities and rural areas in the form of savings funds is the property of private individuals, and it is only with the consent of the masses that the banks may make use of such funds.

Second, personal savings collected by the banks from thousands of families are different from other types of deposits in that they have the greatest potential and the widest scope. It is necessary to mobilize to the widest extent the

vast masses in order to attract idle funds from millions of people and to accumulate large amounts of funds through the accumulation of piddling amounts.

Third, ours being a socialist country, the workers are the masters of the nation. Savings deposits represent trust in socialism, the hard work and thriftiness of the socialist workers and the new relationship between them and the state as evidenced by their support of socialist projects of construction. The development of savings deposit operations has the effect of promoting and developing the excellent tradition of the people and of strengthening the spirit of trust which the people have in the government. In order to promote the enthusiasm of the masses to bank their savings and to develop savings operations with a definite purpose in view, attention should be directed to the following problems:

(1) To promote savings, it is necessary to resort to economic means as well as political mobilization. In recent years, savings banks have made a promising start in resorting to economic means, especially that of paying a higher interest rate, as a lever. Since the smashing of the "gang of four," our nation has on two occasions raised the interest rate of savings deposits and eased the concern on the part of the depositors over price increases. However, we must also pay due regard to the importance of ideological education to encourage the masses to limit their spending, to develop the habit of saving and to support the four modernization projects of construction. It is necessary to inculcate in the people the idea that to economize and to save are socialist virtues, to intensify the work of propaganda on the meaning of socialist spiritual civilization and to approach the work of promoting savings as that of an ideological and political nature for the benefit of the masses. We must at all times give due emphasis to the need to combine economic methods with political mobilization. That is the sum of the historical experience we have gained in savings operations in the last 30-odd years.

(2) The method of mobilizing savings must take on a greater social character. The social character of the method of mobilizing savings is determined by the mass character of savings. Although we have made considerable effort in this area in the past, it is a problem that calls for further study under the new historical context. Japan is a country with the highest rate of savings in the world. Aside from having 68,000 financial organizations distributed throughout the nation and far-ranging methods for soliciting savings, Japan has also adopted as one of her policies the mobilization of social forces to generate savings. At the top of the structure is the "Central Commission for the Promotion of Savings" composed of financial organizations, real estate organizations, the press, young men and women organizations and members of the House of Representatives and the House of Councillors. Under the Ministry of Finance is a headquarters for the promotion of savings headed by a savings promotion officer, and a savings promotion committee is set up in every town, administrative district, prefecture and county. Thus, there exists a special system made up of the Central Commission for the Promotion of Savings, the government and financial organizations. This is a lesson which merits our attention. Since last year, the Jiangnan district office of the People's Bank in Wuhan, with the support of the party and government, has made use of well-known public figures to establish a people's savings promotion committee in the district and has appointed such well-known figures in the literary and arts

circles as Chen Bohua [7115 0130 5478], Guan Zhengming [7070 2973 2494] and Chinqi [6855 1142] to head the promotion committee. Good use has been made of their prestige to adopt various means to promote savings through the press and the broadcasting and television stations.

(3) It is necessary to institute the types of savings to meet the needs of the masses. People's savings are of two kinds, namely, funds that are kept to be used and surplus funds. The constitution of these funds dictates that there should be two major types of savings, that is, current deposits and time deposits. In view of the differences in the capacity to save and the purpose of saving on the part of the masses, the process of accumulation, the time when money is needed and the amount of savings, the banks should offer different types of savings services. According to the findings of the branch office in Wuhan, different age groups among the masses have different purposes in making savings deposits. Most young workers use their savings deposits. Most young workers use their savings for purchasing furniture and bedding supplies and for making wedding trips, the middle-aged are concerned with providing education to their children and the purchase of durable consumer goods, and the aged are mostly interested in making sight-seeing trips after their retirement. Thus, the type of savings that extends from 3 to 5 years from the time of deposit to the time of withdrawal is most welcome. The savings departments can also institute savings and loan operations for individual clients to absorb their cash deposits. They can also institute such special consumer type savings as savings for only sons and daughters, children's savings, home savings, television savings and travel savings in order to make the best use of the available funds in society.

Recently, some comrades have made the timely observation that the study of savings should be approached from the psychological point of view, including the psychology of the consumer, the psychology of the motive of savings and the psychology of the way service is rendered at the savings counters. This study is certain to be of benefit in the promotion of people's savings.

9621

CSO: 4006/127

INDUSTRY

PRC REGULATIONS ON DISPOSAL OF STOCKED MATERIALS

OW290551 Beijing XINHUA Domestic Service in Chinese 1528 GMT 27 Dec 82

[Text] Beijing, 27 Dec (XINHUA)--The State Council recently laid down regulations on discarding materials as useless, disposing of overstocked materials at reduced prices and preventing overstocking of materials. The regulations point out: All electrical machinery and products, including steel products, stocked by state enterprises and institutions before the end of 1980 may be discarded as useless or disposed of at reduced prices in accordance with these regulations.

The standards for discarding materials as useless: 1) poor-quality products, made in a rough and slipshod way, which are not up to the technical standards set by the state or the departments concerned of the State Council.

2) Products which have been seriously corroded or damaged as a result of poor storage or, having exceeded the prescribed storage time, can no longer be put to use. 3) Technically backward products with low efficiency, but with a high consumption of energy, and already obsolete. 4) special-purpose or standard equipment, badly designed and technologically not up to standard, which cannot be used for other purposes or remodeled economically.

As for materials to be disposed of at reduced prices, those units keeping such materials in stock should submit plans for their disposal at reduced prices, in line with their actual conditions and the principle of pricing them according to their actual value.

Because electrical machinery and products, including steel products, are overstocked in our country, the State Council has laid down these regulations. The regulations state: Various areas and departments have made some achievements in the use and disposal of overstocked materials over the past few years, but the quantity of electrical machinery and products, including steel products, kept in stock is still too large. Particularly rejects and substandard products kept in stock for a long time, which should be discarded as useless or disposed of at reduced prices and have not been so processed. Such materials have actually lost their utility, or much of their utility. They are actually unreliable figures on the books. The longer we delay in disposing of such materials, the more losses we shall suffer. At the same time, there is fresh overstocking before the old stock is disposed of. To change this situation, we must emancipate our minds and take resolute measures to make an

inventory of warehouses and to bring about a new situation in making use of such overstocked materials. We shall suffer losses by doing so, but we can use at least some materials and unburden ourselves of them.

The regulations include specific procedures for the examination of, and approval for discarding as useless, electrical machinery and products, including steel products, or disposing of them at reduced prices, specific procedures for transferring accounts and financial handling in this regard and specific measures for prevention of fresh overstocking.

CSO: 4006/172

INDUSTRY

NEW DEVELOPMENTS IN INDUSTRIAL TECHNOLOGY IN GUANGDONG

Guangdong NANFANG RIBAO in Chinese 6 Oct 82 p 1

[Article by Staff Correspondent: "The Outlook for Our Province's Industrial Technology Has Undergone Gratifying Change"]

[Text] Over the past 3 years, the electronics industrial system has imported 61 production lines, among which have been those with an annual production capacity of 4 million tape recorders, 4 million calculators, and 250,000 television sets. The No 2 light industrial system has imported over 20,000 pieces of equipment, more than the total increase in equipment in the previous years.

Over the past 3 years, by practicing the open-door policy and the policy of carrying out a lively economy at home, our province has effectively promoted the transformation of industrial technology and the importation of new equipment and new technology. The outlook for industrial technology throughout the entire province has undergone a gratifying change. This is of important significance in implementing the spirit of the 12th Party Congress and in promoting socialist modern economic construction.

As we found out, through practicing the open-door policy and the policy of carrying out a lively economy at home, the various localities and departments in our province have utilized foreign investments and their own foreign exchange over the past 3 years to import from the international market a number of items of advanced equipment and technology, thereby filling some gaps in our province. This has included over 40 million dollars' worth of equipment which Guangzhou Municipality over the past 3 years has imported in the form of "one supplement for every three incoming items." In addition, it has made use of the foreign exchange reserves of the localities to import over 4,300 pieces of advanced equipment. In the past 3 years, Foshan and Jiangmen municipalities and Nanhai, Xinhui, and Dongwan counties have imported over 68,000 pieces of equipment. In the past 3 years, the electronics industrial system throughout the province has imported a total of 61 production lines. Among them have been 19 lines for the production of tape recorders and radios, with an annual production capacity of over 4 million tape recorders and 1 million radios;

4 lines for the production of television sets, with an annual production capacity of 250,000 sets; 3 lines for the production of calculators, with an annual production capacity of 4 million pieces; 7 lines for the production of electronic watches, with an annual production capacity of 900,000 watches; 28 lines for the production of elements, with an annual production capacity of 800 million pieces; and 1 line for the production of electronics printed circuit boards, with an annual production capacity of 800,000 square feet. In this way, we have established a fine foundation for the development of our province's electronics industry. In the past 3 years, the No 2 light industrial system throughout the province has imported over 20,000 sets of equipment worth 23 million dollars, surpassing the total increase in equipment over the preceding 28 years. This has effectively raised the technological production level of the No 2 light industry.

With the imports of new equipment and new technology, the outlook for industrial technology throughout the province presently is undergoing a gratifying change. For instance, comparing the total industrial output value in Guangzhou Municipality in 1981 to that of 1978, we find the following: The proportion of manual production has been lowered from 65 to 55 percent; the proportion of the assembly-line method of production has been raised from 70 to 85 percent; and the proportion of automated production has been raised from 15 to 30 percent. Along with this, technological equipment in some businesses and undertakings has undergone great changes. For instance, the technological equipment in the textile, knitting, and clothing trades throughout the province has undergone basic changes. The technological equipment in the electronics, plastic materials, and furniture trades has also undergone changes in varying degrees. In the past, Jiangmen Municipality had only two clothing factories, with an annual production capacity of less than 60,000 dozen and with a capacity for processing only low-grade cloth. In recent years, they have set up eight clothing factories among the neighborhood and commune and production brigade industries, imported over 900 sets of a variety of advanced sewing equipment, and raised their annual production capacity to 210,000 dozen, more than 3 times the former production capacity for clothing in the entire municipality. Because the sewing equipment is advanced, and because they have customers who provide advanced technology, presently they can process all kinds of high-grade cloth and their products have entered the international market.

These gratifying changes in the outlook of our province's industrial technology are playing a more and more prominent role in developing new products, new styles, and new varieties, in lowering the consumption and cost of raw materials and energy, in bettering economic results, and in improving labor and environmental protection factors. For instance, with respect to the increase in new products, Guangzhou in the past 3 years has successfully trial-produced 1,552 new products, among them 164 items such as the GC10-1 high-speed sewing machine, thereby filling a void at home, and 406 items including cardboard batteries, aluminum foil, bulk acrylic fiber and knitting wool, soft-package beverages, and a quarto automatic platform printer, thereby filling needs in our province. With respect to bettering economic results, the Guangzhou chemical industrial plant has

replaced graphite electrodes with titanium electrodes in the production of caustic soda, thereby reducing electricity consumption by 280 kwh for every ton of caustic soda. The Guangzhou silk cloth dyeing and treating factory has imported 18 sets of dyeing and treating equipment to handle carding material. This has not only raised product quality but also increased production capacity and the variety of colors and designs. Consequently, last year's total profit increased 1.7-fold compared to that of 1979. Furthermore, with respect to environmental protection, last year, in connection with the technological transformation, Guangzhou Municipality arranged for 239 projects in dealing with "the three wastes." Last year, 66 were completed and began operation. Included among them were 15 relatively large electroplating wastewater-treatment projects that were completed ahead of schedule, thus reducing the annual discharge of 32 tons of the harmful hexavalent chromium.

9335

CSO: 4013/54

CONSTRUCTION

CHANGES IN FINANCING OF CAPITAL CONSTRUCTION IN SHANGHAI REPORTED

Shanghai JIEFANG RIBAO in Chinese 19 Sep 82 p 1

[Article: "Project Construction Period Was Shortened and Economizing on Funds and Benefits Was Higher. Investment for Basic Construction in the City Was Changed From State Raising of Funds to Bank Loans"]

[Text] Since the 3d Plenary Session of the 11th Central Committee, this city has gone in the direction of reducing the scale of construction and of readjusting investment, while at the same time a major reform has been made in the capital construction management system. Investment in capital construction has been changed from state financing to construction bank loans, changing from free exclusive use to use with repayment. For more than 3 years, marked effects have been obtained from this reform.

For a long time, the management system for capital construction used the method of state financing. This method of "eating from one big pot" has resulted in some construction units concerning themselves only with striving for investment projects without paying attention to the economic benefits of construction projects. This is one of the major causes leading to long periods of construction, great waste and losses and poor benefits from investment on the construction battle line. Beginning in 1979, the city launched a pilot project in which drawing funds was changed to borrowing funds, at first, in the two spheres of light industry and textiles. After experience had been acquired, this was quickly expanded to the entire city. At present, basically all of the construction projects among the local capital construction projects in the city as a whole that meet loan conditions are being financed by bank loans.

A marked change that has come with changing from drawing money to borrowing money is manifested first in shortening of the periods of construction. After a bank loan is implemented, a loan agreement must be signed between the construction bank and the enterprise borrowing the funds to the effect that interest must be paid on the money provided and that a penalty must be paid if payment is overdue. The enterprise that borrows the funds comes to a clear understanding that it assumes an economic responsibility when it uses construction funds. An economic agreement is also signed with the construction units specifying the construction period and specifying that completion of the work ahead of schedule will bring a reward, whereas a penalty will be exacted if the work period is extended. In this way, construction schedules have been sped up

and periods of construction have generally been shortened. In the city as a whole, 38 loan projects have already been put into production. The average period of construction was only 20.4 months, a shortening of the average work period of 31 percent for projects that have gone into production in the city as a whole as compared to the previous 4 years.

A second change that has come along with changing from drawing funds to borrowing funds has been a saving on construction funds. In the past when government financing was used, the phenomenon of investment overspending was very common. At present, whether a large or a small amount of money is used involves gains and losses on the part of the enterprise that has borrowed the funds. For this reason, construction units have strengthened their economic accounting and are giving attention to economizing on the use of funds. Some enterprises that have their own funds use their own funds first and only get a loan from a bank when their funds are insufficient. For example, the Shanghai Third Steel Plant had a project for reconstructing its annealing furnaces in which it was planned to reconstruct 28 furnaces. Their original plan was to use 50,000 yuan to reconstruct each furnace, for a total required investment of 1.4 million yuan. After the change in the loan system, the plant found through a study of its accounts that the money that would have to be spent for their original plan would be too much. They revised their reconstruction plan to make full utilization of their existing furnace casings and furnace bases. As the result, they required an investment of only 15,000 yuan for each furnace so that the investment for the 28 furnaces was reduced to 980,000 yuan. This was a savings of 70 percent in construction funds as compared to their original plan.

The third change accompanying the change from drawing funds to borrowing funds had been to promote giving serious attention to the actual benefits of construction in all aspects. On the one hand, after an enterprise borrows money, it assumes the economic responsibility of returning the capital and paying interest on time. This spurs the enterprise into intensifying research on the feasibility of a project, into a rational determination of construction plans and into changing from the past situation of striving for investment projects without regards to the benefits of the investment. On the other hand, the bank wants to recover the funds that it has lent out on time and also wants to speed up turnover as much as possible. This spurs the bank into intensifying its investigation of the loan project. If it is found that the project is not of good economic benefit, then it does not loan the money and it also does not draw funds. In 1981, as the result of an investigation of loan conditions, the Shanghai Construction Bank made recommendations to the concerned city departments. Following this, there were four planned construction projects that were not started, with investment being reduced by 5.4 million yuan.

CONSTRUCTION

NEW HOUSING CONSTRUCTION PLANNED FOR SHANGHAI

Shanghai JIEFANG RIBAO in Chinese 27 Aug 82 p 1

[Article: "Shanghai Will Build 15 Million Square Meters of New Housing. Municipal CPC Committee and City Government Propose the Task of Housing Construction in the 'Sixth 5' Period; Chen Guodong [7115 0948 2767], Hu Lijiao [5170 4539 2403] and Wang Daohan [3076 6670 3211] Spoke Yesterday at a Plenary Meeting of the City Cadres; The Meeting Requested Each Party and Government Unit To Do Everything Possible To Speed Up Construction"]

[Text] "During the period of the 'sixth 5-year' plan from 1981-1986, this city will build 15 million square meters of housing." This is the task proposed for housing construction in this city by the municipal CPC Committee and the city government at the cadres meeting that was held yesterday (the 26th). At the meeting, it was arranged to speed up the work of housing construction. Each party and government unit was asked to fully recognize the importance and urgency of housing construction, to adopt effective measures and to do everything possible to speed up the pace of housing construction in order to make an effort to gradually alleviate the housing problem in Shanghai.

At the meeting, the tortuous course of housing construction in Shanghai over a period of more than 30 years was reviewed and it was pointed out that the housing crisis is a serious economic and social problem in the city. The housing crisis is the result of varied social causes and historical causes. In the old Shanghai before the liberation, housing construction was slow and unplanned. There was a wide gap between the upper and lower level of housing among the residents of the city, with housing for the broad masses of laborers being very poor. After the liberation, the party and the government gave serious attention to improving housing conditions suitable for the masses in the course of economic development. After the "gang of four" had been smashed, and, in particular, since the 3d Plenary Session of the 11th Central Committee, the municipal CPC Committee and the government have given very serious attention to solving the housing problem, with comparatively rapid progress having been made in housing construction. From 1977 to 1981, 10.72 million square meters of housing were constructed in the city as a whole. Of this, 4.92 million square meters, or 45 percent, was accounted for by independent construction by various organizations. The number of residences constructed throughout the city as a whole during this 5-year period amount to 42 percent of the total amount of construction during the 32-year period after the liberation, with the housing problems of the more than 96,000 residences in particular difficulty being

solved in succession. Consideration was given to such aspects as correctly implementing policies. However, the speed of construction was affected by many problems relating to plans, sites, funds, construction materials and management work. In the face of these conditions, the municipal CPC Committee, the city government and various concerned units conscientiously conducted surveys and studies on a broad-ranging and repeated basis, collecting opinions on all aspects of the matter. They proposed concrete measures for accelerating housing construction.

At the meeting, past experiences were summarized. In view of such corrupt practices in the current management system as excessive reliance on connections, excessively detailed management, multiheaded leadership and arguments over trifles, they started out from actual conditions and proposed that housing construction should be under unified leadership with divided management levels, division of work and responsibility, differentiation between government and businesses, overall planning, integrated development, full manifestation of the functions of the two levels of cities and regions, establishment of several enterprise-type companies separately on the basis of need, simultaneous and full concentration of financial resources, human resources and material resources, arousal of the initiative in management of various systems and units. Solving the housing problems of households in distress was made the key point, with continued implementation of the policies of uniting housing construction with urban construction, of uniting unified construction with construction by various systems and individual construction and of uniting new construction, renovation and maintenance with exploitation of potential so that these policies can proceed actively and reliably. At the meeting, disposition was made one by one in regard to such work as planning systems for housing construction, construction design, acquiring land and moving, construction of city government public facilities, improving environmental hygiene, maintenance of housing, building materials, building and construction, developing human resources and organizing leadership.

Comrade Wang Daohan made an important speech at the meeting. He said: "In order to reform the housing construction management system, we must emphasize four aspects. The first is a unified program, unified planning and a unified policy. That a large city like Shanghai does not have a unified program is unimaginable. Second, stress should be put on each region playing its part. Some of the limits of management authority should be extended downward and the regions should each carry a heavier burden. Third, the initiative of all aspects should be aroused. We should divide the 'heavy burden' of having the city as a whole solve the housing difficulty into several 'small burdens' so that the burden can be divided among everyone. Fourth, we must gradually implement separation of government and business."

Comrade Wang Daohan said: "All levels of the party organization should proclaim the principle of 'First, we must eat and second we must build' broadly to the masses. On the basis of expanding production, we must gradually improve the standard of living of the people, including improving housing conditions. On one side, that nation is now doing everything it can to accelerate housing construction. At the same time, it also sees the limitations on financial resources and human resources of the state and the various enterprise units. All

that we can do is to gradually increase the quantity of housing construction on the basis of expansion of production."

Also present at the meeting were Comrades Chen Guodong, Hu Lijiao, Han Zheyi [7281 0772 0001], Zhong Min [6945 3046], Yang Shifa [2799 1102 3127], Xin Yuanxi [1823 0337 6932], Zhao Zukang [6392 4371 1660] and Pei Xianbai [5952 0341 4101], who bear responsibilities in the municipal CPC Committee and the city government. Chen Guodong and Hu Lijiao also made important speeches at the meeting.

More than 700 leadership comrades from various ministries, committees and offices and from various districts, counties and bureaus participated in the meeting.

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CSO: 4006/001

CONSTRUCTION

FORTY NEW RESEARCH INSTITUTES BUILT IN SHANGHAI

Shanghai JIEFANG RIBAO in Chinese 26 Aug 82 p 2

[Article: "Forty New Research Institutes Built in Shanghai. Sixty Percent Belong to Light, Handicraft and Textile Industries, Vigorous Development of New Techniques, New Technology and New Products in These Industries"]

[Text] The Shanghai City Building Hardware Technology Institute was formally established the day before yesterday (the 24th). This is the 40th newly established industrial research institute in the industrial system of this city in recent years.

The importance and urgency of science and technology in promoting economic development has come to be felt more and more strongly on the industrial battle line in the course of establishing the four modernizations. In order to adapt to new conditions, many industrial companies in this city, in addition strengthening their original scientific research facilities, have, in integration with economic readjustment, in succession transferred the backbone of their scientific and technological contingents and have expanded outside the factory building facilities to build new research institutes. The 66 industrial companies of the industrial system of this city have already built 63 research institutes. Forty of these research institutes were built after the 3d Plenary Session of the 11th Central Committee. The total number of scientific and technological personnel has increased from an original level of over 1,300 persons to more than 3,300 persons, an increase of close to 3 times. Close to 60 percent of these newly built company primary research institutes belong to industries directly related to the people's livelihood such as light industries, handicraft industries and the textile industry.

Company research institutes, being closely linked to the realities of production, serve their industries by improving the quality of products, developing new products, solving technological problems of the industry and absorbing new technology from abroad. They gradually become centers for research on and development of new techniques, new technology and new products in their industries. Since the Shanghai Leather Industry Research Institute was established in 1979, it has received 13 major Ministry of Light Industry and Shanghai City science and technology achievement awards. The high-frequency molding machine that this institute succeeded in developing can process "leather" products using plastics as raw materials that are so exactly like natural leather that these products can hardly be distinguished from genuine

leather products. Most of these 13 major achievements have already been put into production and some of them are about to be put into production. The achievements that have already been put into production have increased the income of the plant by 10 million yuan so that their economic benefit is considerable. The Plastic Products Institute has made scores of research achievements, most of which are already in production in plants in this industry. Since the plastic pipe for agricultural use went into production at the Shanghai Second Plastics Plant, the plant expanded from one production line to three production lines, with supply still not meeting demand. This type of plastic pipe is now being used in nearly 10,000 mu of farmland in 14 provinces throughout the nation and in the outskirts of this city. As the result of field tests over a period of several years by the Shanghai City Agricultural Sciences Academy and the Ministry of Water Conservancy, it has been demonstrated that its performance is good in water drainage, combating drought and soil improvement, having been able to increase production of cotton, grain and vegetables by more than 10 percent.

The establishment of company primary research institutes has provided a scientific and technological guarantee for a large number of medium-sized and small plant enterprises. This has been advantageous in increasing the technological level of industry as a whole. Many bureau and company leaders have attached great importance to allowing company research institutes to play the role of "file leader" so that the forces of this scientific and technological corps can fully be brought into play when organizing a technological attack on a key problem. The Synthetic Fiber Institute was designated by the Ministry of Textiles and the Chemical Fiber Industrial Company as an industry leader in developing new chemical fiber fabric products. In recent years, this research institute has succeeded in developing 5 major types of new chemical fiber raw materials with 17 color specifications such as long polyester fibers with good dyeing characteristics, special-shaped long polyester fibers and long colored polyester fibers. These served as a starting point for attacks on key problems, and subsequently a system of 11 cooperative groups was formed among more than 30 plants and scientific research units in the areas of textiles, printing and dyeing, knitting and silk. More than 40 new types of new chemical fiber products were produced on a trial basis and were put on sale in markets around the time of National Day. Company research institutes are not only scientific research bases for making achievements in these industries but also centers of testing and information for these industries. In the city as a whole, there are now 15 city level specialized technology testing units. Of these, there are five for which specialized company research institutes are responsible. The Synthetic Resins Institute, the Paint Institute and the Electrical Machinery Technology Institute all have comparatively high levels of testing capabilities. Each year, they receive requests for them to test several thousands of items and they receive good evaluations from those in the same occupations. The information and data collected by the information personnel of the Bicycle Institute has increased 10 times over the past 3 years, while samples and standards have increased 17 times. They have also conducted conscientious analyses of scientific, technological and market information from both this country and abroad. This has had a positive effect in developing new products and new technology in the bicycle industry.

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CSO: 4006/001

CONSTRUCTION

IMPORTANCE OF URBAN CONSTRUCTION STRESSED

HK230218 Beijing CHINA DAILY in English 23 Dec 82 p 4

[Article from URBAN AND RURAL CONSTRUCTION: "Urban Construction Should Keep Pace with Production"]

[Text] Towns and cities are economic, political and cultural centres, so their development requires ever-increasing expansion of industrial production and commerce, accumulation of capital funds and planned construction.

In the past, the emphasis was only on development of production while urban construction--although state funds were allocated for this purpose--was often squeezed aside by "political tasks" or "central tasks." As a result, the gap between the two became increasingly great.

Qingdao, in Shandong Province, is well-known as a base for the light and textile industries. Its fixed assets have increased 6.6 times and its industrial production value more than 30 times since liberation. It has also accumulated 17 billion yuan in capital funds.

When the policy of five percent of profits from industrial and commercial enterprises to the state was in force, local revenues, surpluses and funds not included in the budgets came to an annual 15 to 20 million yuan.

This amount could be used for city construction. But, after 1958, almost all these funds were diverted to develop the steel and iron industry. There was no talk of construction during the "cultural revolution." In the years following 1970, all these funds were again channelled with industrial production. Thus, the following problems cropped up:

Housing shortage: At present, 44 percent of the total number of households in the city live in crowded conditions. And 51.22 percent of the homes are seriously damaged and in need of repair.

Traffic congestion: There are now eight times the number of motor vehicles at liberation, but the increase in the total length of the roads is only 70 percent.

Water shortage: Although supply has increased 10.5 times, demand has increased 16.3 fold.

Shortage of commercial and services establishments: The total amount of retail sales in 1980 was 4.3 times that of 1957, but the number of businesses was reduced by 3.869 after repeated mergers and closings.

Serious pollution: The annual discharge of sewage has reached 87.33 million tons and of poisonous night soil 800,000 tons. The monthly quantity of dust per square kilometre in the urban industrial district is 106 tons which is 14 times higher than the maximum allowed by the state.

Requisition

According to preliminary estimates, 1,312 billion yuan of capital funds is needed for construction alone, and 360 million yuan is urgently needed. The current financial system and the percentage of profits retained will only yield 42 million yuan annually in city construction funds. It would take 31 years to complete the construction that is overdue.

Those "overdue accounts" cannot be met by simply relying on state funds. Therefore, a solution must be found by changing the current financial system. For this there are the following proposals:

City maintenance and construction funds come from various sources. The various channels for funds can be combined. As these funds are drawn from tax revenue, this centralization of the channels would facilitate management.

Taking Qingdao for an example, funds from profits for the year 1980 constitutes 7.58 percent of the total industrial and commercial tax (including the income tax). Thus, 7.58 percent might be considered an additional industrial and commercial tax would be designated for city maintenance and construction funds.

Public utilities such as electricity, water, buses and taxis can only reap a total profit of three million yuan annually. This should not be turned over to the state but retained entirely for city construction.

Most new housing is built in regions and suburbs where services are badly needed. Fees should be collected for the installation of such services. Qingdao municipality once tried the method of collecting an additional fee from requisitioned land to pay for construction of services. This method benefits the construction, maintenance and renovation of the city.

Public works, public utilities, parks and afforestation, environmental hygiene, science and technology, culture and education, commercial services, and physical educational activities should all be planned and carried out as a whole.

This would add an annual 15 to 20 million yuan to city construction funds in Qingdao. Adding this to the 42 million yuan now available, the annual total would be about 60 million yuan. Thus, a total of 300 million yuan would be procured in five years and the shortage of capital funds for Qingdao's construction and maintenance, can be settled.

CONSTRUCTION

PRC SPEEDS UP CONSTRUCTION OF DEEPWATER BERTHS

OW251414 Beijing XINHUA Domestic Service in Chinese 0045 GMT 22 Dec 82

[Text] Beijing, 22 Dec (XINHUA)--This reporter has learned from the Ministry of Communications that China's Sixth 5-Year Plan for economic and social development calls for the construction of 132 deepwater berths, of which, 7 were completed last year or this year, and 62 are under construction at present. The present construction speed shows that the harbor construction task in the Sixth 5-Year Plan can be fulfilled on schedule.

The 62 deepwater berths under construction are located in 16 coastal and inland waterway harbors in Qinhuangdao, Tianjin, Qindao, Dalian, Yingkou, Shijiusuo, Lianyungang, Shanghai, Ningbo, Xiamen, Huangpu, Zhanjiang, Fangcheng, Nanjing, Zhenjiang and Nantong. These deepwater berths include 16 coal berths, 7 container berths and 39 ore, lumber, grain and bulk freight berths. The handling capacity of China's coastal harbors in 1980 was 217 million dun. When all the 62 berths have been completed, the handling capacity of China's coastal harbors will be augmented by 100 million mu, thereby increasing their coal handling capability by over 60 million dun and their container handling capability by 500,000 containers, more than tripling the current container handling capability.

While the above-mentioned deepwater berths are being constructed at present, the central organs and local departments concerned have rendered vigorous support to ensure material, equipment and power supplies; and the construction units have continuously striven to perfect the economic responsibility system and fully arouse the enthusiasm of staff and workers, thus speeding up construction. The volume of deepwater berth construction this year is more than 80 percent higher than last year, and 9 deepwater berths will be completed next year. The remaining berths can basically be completed within the period of the Sixth 5-Year Plan.

CSO: 4006/172

CONSTRUCTION

HOUSING CONSTRUCTION MALPRACTICES REVEALED

OW290159 Beijing XINHUA Domestic Service in Chinese 0735 GMT 26 Dec 82

[Excerpts] Beijing, 26 Dec (XINHUA)--According to a disclosure by an investigation group of the CPC central committee's central commission for discipline inspection, there have been grave malpractices in housing construction and distribution among the organizations under the jurisdiction of Deqing County, Zhejiang Province.

According to the investigation report of the group, there were not many houses in Chengguan town, the seat of Deqing County, before the end of 1978, and the average living space per person there was 5.3 square meters. Following the growth of the national economy since the 3d Plenary Session of the 11th CPC Central Committee, the country's local revenues have increased considerably. Some new houses have been built with funds allocated by the county finance department and those prepared by the various units concerned. However, numerous problems have cropped up in housing construction:

1. Houses have been built without permission and in violation of regulations. [passage omitted]
2. Some living quarters far exceed the prescribed standard. According to the regulations of the state capital construction commission and the provincial departments concerned, the average floor space of a housing unit for staff and workers of county-level organizations should range from 45 to 50 square meters. There are also regulations governing the quality of living quarters. However, most living quarters here exceed the prescribed standard. [passage omitted]
3. The tendency to misappropriate funds is universal and grave. [passage omitted]
4. There is no unified plan for the utilization of land. Many units have built living quarters on unauthorized land. [passage omitted]

The investigation report of the group says that many new living quarters have been constructed in Deqing County, but the problem of housing shortage among the residents of Chengguan Town has remained unsolved. In addition, the difference in the quality of living quarters for cadres, the masses and various

units is too big. According to statistics, among the residents in Chengguan Town, there are 62 families who do not have living quarters, 138 families living in overcrowded quarters and 34 families living in dilapidated houses. An important reason for the emergence of this situation is malpractices in the distribution of living quarters. [passage omitted]

The investigation report says that the existence of the problems in housing construction and distribution has been caused, first of all, by the failure of the county party committee to implement the relevant policies of the central authorities and to provide good guidance in housing construction and distribution. The second reason for emergence of these problems is that the county government has not assigned an authoritative department to take charge of housing construction and distribution and that there are neither unified plans for urban construction nor unified regulations governing housing construction and distribution. As a result, each unit does what it likes. The third reason is that the relevant functioning departments have failed to assume proper responsibility and play an effective supervisory role.

CSD: 4006/172

CONSTRUCTION

NATIONAL URBAN DEVELOPMENT SYMPOSIUM CLOSES

OW282222 Beijing XINHUA Domestic Service in Chinese 1644 GMT 24 Dec 82

[Excerpts] Beijing, 24 Dec (XINHUA)--The national symposium on urban development closed in Beijing today. The symposium called on everyone to pay attention to urban development, attach importance to and bring into play the central role of cities in building the socialist modernizations and in bringing along rural development.

The symposium was held by the China Society of the Dialectics of Nature. Experts, professors, urban planners, secretaries of some municipal party committees and mayors from various parts of the country--a total of over 180 people--attended the symposium. [passage omitted]

According to 1980 statistics, the total population of China's 220 cities comprised 10 percent of the national population. The gross industrial output value of these cities represented 75 percent of the national figure, while profits and revenues delivered accounted for 82 percent. Furthermore, some 86 percent of China's college students studied in these cities in 1980. Therefore, to actively develop cities in a planned way and bring into play the central role of cities in the modernization drive have become one of the important strategic issues for accomplishing the grand objectives set forth by the 12th National CPC Congress.

Over the past 3 decades, much success has been scored in China's urban construction. However, because of an insufficient understanding of the important role of cities in the national economy and in social development and the lack of studies on the law of urban development, we have committed many mistakes in the past. For example, we have lost control over the growth of large cities and the layout of most urban areas is improper. Moreover, residential housing and public utilities have failed to catch up with urban development, while pollution is aggravating, parks and lawns are being encroached upon by the urban sprawl, and historical sites are being sabotaged. All this not only affects the improvement of people's livelihood but also greatly retards urban construction and urban economic construction.

In view of the above, the experts stressed that the decisionmaking organs at various levels and leading cadres must fully pay attention to and bring into play the central role of cities in the socialist modernization drive,

earnestly strengthen urban construction work, constantly study ways to reform the urban management system, solve the contradictions between the various rules and regulations and bring along rural development with the development of the cities. [passage omitted]

The symposium began discussions on 19 December. The preparatory committee for the China Urban Science Society was set up at the symposium.

CSO: 4006/172

LABOR AND WAGES

BEIJING, SHANGHAI YOUTH IN LABOR EMULATION DRIVE

OW241946 Beijing XINHUA in English 1528 GMT 24 Dec 82

[Text] Beijing, 24 Dec (XINHUA)--Beijing and Shanghai building workers who are delegates to the National Youth League Congress have decided to start a labor emulation drive in this trade in the two biggest cities in China the aim is to build more houses, workshops, and school buildings.

The Beijing Youth Team led by Sui Shizhong challenged the 41 youth shock teams of the Shanghai Construction Bureau to set the best records for attendance, speed, safety, economy and economic results and benefits in 1983.

The conditions also include educating team members in the communist world outlook, in scientific management and in dedication to work. Also included are care for the team members and training of workers in all-round skill.

Sui Shizhong, head of the plasterers team, told XINHUA that they are determined to carry forward the glorious tradition of the young builders of the 1950's, represented by Zhang Baifa and Li Ruihuan. Zhang Baifa now a vice mayor of Beijing and Li Ruihuan is now Tianjin acting mayor. Both headed youth shock teams in the 1950's that were noted for their outstanding contributions in putting up the Great Hall of the People and other major buildings in the capital.

Sui Shizhong said he decided to visit Shanghai in the near future to learn from the builders there.

Xiao Changsong, deputy secretary of the Youth League Committee of the Shanghai Construction Bureau and a delegate to the current congress, took up the challenge. He told the press that after the congress, he intends to visit Sui Shizhong's team to discuss the details of the emulation. He would bring back the details to the 41 teams of his own bureau. The experiences of the Beijing youth team has already been widely discussed among the Shanghai teams. The most important thing, he said, was communist ideology and diligence in work.

The very day after Xiao Changsong's arrival in Beijing, he called on Sui Shizhong and presented a letter signed by the 41 Shanghai teams. In the letter, the building workers expressed their wish to work shoulder to shoulder with their Beijing mates and "make new records."

Sui Shizhong took the letter as an invitation to an emulation drive and that touched it off.

Sui Shizhong shock team, set up in September 1980 has always been the pace-setters of the 81 youth shock teams under the Beijing Construction Bureau. [sentence as received] The 28 member team, averaging 23 years old, has two party members and 14 youth league members.

Workers of the iron and steel, coal mining, oil and petro-chemical and textile industries now attending the Youth League Congress are also discussing what they should do.

CSO: 4020/33

LABOR AND WAGES

SHANGHAI PROVIDES 1.5 MILLION JOBS IN 6 YEARS

OW292014 Beijing XINHUA in English. 1632 GMT 29 Dec 82

[Text] Shanghai, 29 Dec (XINHUA)--Shanghai has in the past six years provided jobs to 1.52 million people, a senior official of the Shanghai Municipal Labor Bureau said today.

The population of this biggest city of China's was verified at 11 million in the national population census this year.

"Some 20,000 people are still unemployed, and many of them are not physically fit for jobs," said Zhang Zhi'ang, director of the office of the Shanghai Municipal Labor Bureau.

An annual average of more than 200,000 people have found jobs since the overthrow of the gang of four in October 1976, he added. These do not include graduates of colleges and vocational schools and demobilized service men and women.

Zhang Zhi'ang attributed Shanghai's success in part to the new policy of encouraging people to start private business and cooperatives. About half of the 120,000 people who have found jobs since the beginning of this year are employed by the city's cooperative enterprises, he said.

About 212,000 young people left middle schools to seek jobs every year during the "cultural revolution," Zhang Zhi'ang said. The government provided jobs for only 900,000 of them, sent 1.09 million to the countryside, and the rest, more than 230,000, remained in the city without jobs.

Three factors were responsible for the acute unemployment problem, according to Zhang Zhi'ang. One was the "cultural revolution," which brought production to a standstill. The second factor was the baby boom in the 1950's which resulted from the policy then of encouraging births.

About 80,000 young people graduated from middle schools every year from 1949 to 1965, he added. Compared to 212,000 during the "cultural r evolution."

The third factor was the old practise of letting the government assign jobs to all, a policy now regarded as too rigid and impractical. The new policy, said the labor bureau official, encourages people's own initiatives to provide job opportunities.

CSO: 4020/33

LABOR AND WAGES

BEIJING TRADE UNION COUNCIL OUTLINES 1983 WORK

OW231300 Beijing XINHUA in English 1251 GMT 23 Dec 82

[Text] Beijing, 23 Dec (XINHUA)--The trade unions must be turned into a "workers' center," said Han Kai, newly-elected chairman of Beijing municipality's Trade Union Council, at the first meeting of the Council's 7th Committee here today.

Elected along with Han at the Beijing's 7th Trade Union Congress which closed here yesterday were six vice-chairmen and the committee of 92 members and alternates. The 14-member standing committee was also named.

Han, now 57, has been in trade union work since the early 1950's. He has also held leading posts in the city's youth league and on the physical culture and sports committee.

In his speech, Han outlined the trade union's work for 1983. He said it would include:

- Educating workers about the historical tasks of the working class and revolutionary traditions;
- Spreading and perfecting the system of workers' congresses under the leadership of the communist party committees. These congresses should fully exercise their right of decision and supervision in the management and production of enterprises.
- Launching a socialist emulation drive among workers to get better economic results and fulfill state production plans;
- Advising workers on mutual help activities so as to solve difficulties in daily life;
- Conducting investigations about workers' living standards; and
- Strengthening political and technical training among trade union officials and young model workers.

TRANSPORTATION

REORGANIZATION OF TRAFFIC EASES TIANJIN-PUKOU LINE LOAD

Jinan DAZHONG RIBAO in Chinese 19 Sep 82 p 2

[Article by Song Qihua [1345 6386 5478] and Wang Liangjun [3769 5328 0193]]

[Text] The measures adopted by the Jinan Railroad Office to achieve scientific reorganization of railroad traffic to eliminate "bottlenecks" at such key stations as the Jinan junction have proved effective to insure unobstructed flow of traffic along the Tianjin-Pukou trunk line. The volume of cargo shipped between January and August has increased 3.4 percent over that of the same period a year ago, and the earnings surrendered to the state have gone up by 12.33 percent over that of the same period a year ago.

The mid-section of the Tianjin-Pukou line on both the north and south banks of Huanghe (Yellow River) which comes under the jurisdiction of the Jinan Railroad Office handles a tremendous amount of traffic, plus an annual increase of more than 10 percent of freight shipments. As a result, the Jinan station and the key railroad bridge at Luokou on the Huanghe often get "choked." To insure unobstructed flow of traffic along the Tianjin-Pukou and Jinan-Qingdao trunk lines, the Jinan Railroad Office has been building a new central station and pushing scientific reorganization of the railroad traffic. Both have been quite successful.

1. Re-routing of trains. They re-route some of the trains which usually pass through the Jinan Station and the Luokou bridge across the Huanghe to other lines to cut jamming at the key areas. For instance, some of the north-bound trains usually regrouped at Jinan are regrouped at Yanzhou to by-pass Jinan and cross the new Huanghe bridge built a year ago. All freight trains which usually start from Jinan to points east of Xindian on the Jinan-Qingdao line now switch from Taian to a branch line leading to Xindian. Since the introduction of the re-routing procedure this year, the number of trains passing through Jinan has been cut back by more than 2600 trips.

2. Speeding up train transfers. Beginning this year, the railroad office has been using the Sangzi station, a subsidiary marshalling yard of the Jinan Station, to group 13 trains per day to go through the Jinan Station without further grouping. The time each of these trains spends at the Jinan station is one hour less than what a through freight train which requires train transfer spends at the same station. This helps the Jinan key station to clear many more trains.

3. Scientific classifications. The railroad office has grouped nearly 60 stations of various sizes under its jurisdiction into four categories by freight content and destinations so as to make proper arrangements for equitable shipment and to increase the clearing capacity of the key station. This year, the number of cars the Jinan central station clears per day between January and August went up from a little over 7700 cars a year ago to 8025 cars. The station's facilities are operating at 86 percent of their capacity, 11 percent higher than all other central stations. It clears a train every 4 minutes. The Jinan Central Station is now among the most advanced stations in the rate of facility utilization.

5360

CSO: 4006/074

TRANSPORTATION

HUBEI HOLDS CONFERENCE ON RAILROAD PUBLIC ORDER

HK171312 Wuhan HUBEI Provincial Service in Mandarin 1100 GMT 16 Dec 82

[Text] With the approval of the Hubei Provincial CPC Committee and the provincial people's government, the Hubei Provincial Railroad Public Order Leadership Group held a telephone conference this afternoon, stressing that it is necessary to continue to tidy up railroad public order and to ensure railroad transport safety, particularly safety in transporting goods in transit or from one station to another. The telephone conference was presided over by (Zhang Liang), deputy of the Hubei Provincial Railroad Public Order Leadership Group.

Provincial CPC committee standing committee member Li Jun spoke at the conference. He said: Since the beginning of this year, all places and departments in our province have vigorously tidied up railroad public order. Railroad public order has remarkably improved and the malpractices of theft, robbery, riding on a train without a ticket and climbing on a train have been basically curbed. However, railroad public order has not basically improved and some problems are still very serious.

Comrade Li Jun said: A railroad is a major artery of the national economy. Whether railroad public order is good or bad has a direct bearing on socialist modernization. He demanded that all places quickly deepen understanding of the importance and urgency of tidying up railroad public order and strengthen leadership. They must continue to tidy up public order in key districts, sections, communes and brigades along the railroad lines and nearby streets. They must also tidy up railroad internal order and deal severe blows at criminals who seriously jeopardize railroad public order. Through further tidying up public order, it is essential to thoroughly curb the malpractices of theft, robbery and climbing on trains by the end of next year, to steadily reduce the number of criminal cases of all kinds, particularly important and extraordinarily big cases, to remarkably reduce the number of cases of all kinds which jeopardize railroad public order and calamities caused by the sabotage of public order and to further stabilize public order in stations and trains.

Those attending today's telephone conference were responsible comrades of all prefectures, municipalities and counties along the railroad lines throughout the province who are in charge of political and legal work, responsible comrades of public security departments, bureau directors and responsible comrades of railroad departments.

TRANSPORTATION

NATIONAL CONFERENCE STUDIES MAINTENANCE OF LOCOMOTIVES

Zhuzhou JICHE DIANCHUANDONG [ELECTRIC DRIVE FOR LOCOMOTIVE] in Chinese No 4, 1982 pp 6-7

[Article by Zheng Shuxuan [6774 2855 6693] of Maintenance Bureau of Ministry of Railways: "National Conference on Exchange of Experiences in Maintenance of Diesel and Electric Locomotives and Supply of Power for Traction Held in Sanposhu Maintenance Section"]

[Text] A national conference aimed to exchange experiences on the maintenance of diesel and electric locomotives and the supply of power for traction was held in the Sanposhu Maintenance Section of the Harbin Railways Administration Bureau from 8 to 14 September. Participating in the meeting were 163 representatives of 108 units including [figures as published] 17 railway administration bureaus, 78 railway administration branch bureaus, 43 diesel locomotive maintenance sections, 6 electric locomotive maintenance sections, 10 power supply sections or preparatory groups, and 2 research institutes of Wailian and Zhuzhou.

Since the Third Plenary Session of the 11th Party Central Committee, the work of diesel and electric traction, like all other work in the country, has developed fairly rapidly. By the end of June this year, the number of diesel locomotives had already reached 2,326, and that of electric locomotives had reached 337, or 22.7 percent and 3.3 percent, respectively, of the total number of locomotives throughout the country. There were 1,676 kilometers of electrified lines, which comprised 3 percent of the total length of all railways, while another 1,300 or more kilometers were still under construction. In the last 3 years of the Sixth Five-Year Plan, more than 2,000 kilometers of electrified railways will be in regular operation. Diesel traction will be used on some new and old lines. In the first half of this year, maintenance of both diesel and electric locomotives has shown gratifying results, since the various maintenance tasks and the main maintenance indices have improved in varying degrees. For example, compared with the same period last year, the number of regular maintenance jobs on diesel locomotives and electric locomotives was increased by 2 percent and 40 percent, respectively, while the proportional figures of temporary repairs were 2.2 percent for diesel locomotives and 2.1 percent for electric locomotives, a reduction of 0.3 percent and 1.5 percent, respectively. For every 100,000 kilometers, the number of breakdowns was 0.34 for diesel

locomotives and 0.62 for electric locomotives, a reduction of 12.8 percent and 31 percent, respectively. Again, for every 100,000 kilometers, the number of temporary repairs was 2.56 for diesel locomotives and 4.79 for electric locomotives--a reduction of 1.29 percent and 22 percent, respectively. For every 10,000 ton-kilometers, fuel consumption was 33.4 kilograms for diesel locomotives, and electric consumption for electric locomotives was 117.5 kwh, a reduction of 0.7 kg and 4.6 kwh, respectively. Power supply for traction was 217 million kwh, an increase of 5.8 percent, while the number of power outages for every million kwh was 3.4, a reduction of 0.3 compared with the same period last year.

To promote the work of maintenance and power supply for traction for diesel and electric locomotives, on the basis of the summation of the experiences of the various bureaus and sections, the maintenance section of the ministry in 1980 issued "Provisional Regulations for Evaluation of the Work of Maintenance and Power Supply for Traction for Diesel and Electric Locomotives," Document No (80) Jinei-93, and beginning in 1980 an annual evaluation was to be organized for all railways. The PDCA cycle method was used to promote continued improvement in the work of maintenance and power supply for traction for diesel and electric locomotives. The "Regulations" became more substantive through the summing up of experiences, and, on the basis of Document 93, Document (80) Jinei-220 was issued, embodying higher demands. This was followed by Document No 220 of 1981, which further increased the demands set forth in No 220 of 1980. Thus a new standard is set every year.

This conference to exchange experiences was organized on the basis of the evaluation of maintenance work in accordance with Document No 220; before the conference, each bureau recommended an outstanding diesel and electric locomotive maintenance or power supply section to participate in the national evaluation. The recommended sections summed up their experiences, and 19 of them submitted 46 reports on their experiences which were classified into six major categories, namely: comprehensive experiences; experiences in quality control (including the work of calculation, numerical data, and materials management); the experience of "four bases and three transformations" signed maintenance service; experiences in controlling interchangeable parts; experiences in maintenance technology; and experiences in other professional work. Through the introduction at the conference and through the professional symposiums and discussion groups, the participating comrades all felt that because of the implementation of Document 220 over the past 3 years, diesel and electric traction has undergone great improvements, as shown by the change from the phenomenon of frequent breakdowns and temporary repairs, with some locomotives "getting stuck," which existed before the issuance of Document No 93. This experience-exchange conference has supplied the answer to the question of what to do about diesel and electric traction in the creation of a new situation in all fields of socialist modernization. At the same time, it has given us a better idea of the work of maintenance and power supply for diesel and electric traction, as required by Document 220, so that we can work more meticulously. Instead of one-sidedly striving for points in the evaluation, we are now more aware of the fact that in total quality control, we must begin with quality analysis before attending to the

implementation of policies and the realization of the objective in order to achieve better economic results. Every unit was given the opportunity to see others' merits as well as its own shortcomings, and there were good examples to be followed and goals to be strived for. At the meeting, everyone submitted constructive ideas for the further revision of Document 220.

In accordance with the spirit of the 11th Party Congress, and in light of the realities in the work of maintaining diesel and electric locomotives and supplying power for their traction, the conference laid down the guiding thoughts for fulfilling the main tasks for this year and next, as follows. Proceeding from the need to reorganize enterprises in a constructive way, and with improvement of economic results as the central task and improvement of quality as the main issue, so as to be sure that the requirements of railway transportation are met, we must attend to the infrastructural work in a practical way and set up a normal production procedure. We must also stress the basic requirements of constructive enterprise reorganization in carefully attending to the three items of construction so as to meet the "six-year" requirements for the final purpose of building the enterprises into modern socialist enterprises with a high level of material and spiritual civilization and with typical Chinese characteristics. The central task is to improve economic results and create more material wealth. The objectives for this year and next are: (1) complete all plans for the maintenance of diesel and electric locomotives and for power supply for traction; (2) achieve the "three no's" in the work of maintenance on diesel and electric locomotives, namely, no breakdowns, no power supply for their traction; and (3) guard against the "three major harms"—namely, "backfiring," ring fire, cylinder explosion, and the cracking of main trunks, "broken trunks," and major structural damage. The three main tasks for this year and the next are as follows:

1. We must faithfully implement Document 220 in close coordination with the new regulations for enterprises and make our overall plans. The new regulations for the maintenance of diesel and electric locomotives have already been issued, and the regulations for power supply have been published. These are the basic regulations for the maintenance of locomotives by the maintenance sections, and they must be faithfully implemented. Document 220 outlines the work of maintenance, control and maintenance in the light of realities. The new regulations for the maintenance of locomotives have been completed, but instead of stopping at that, we must go on to the next stage. The new regulations for the maintenance of power supply and Document 220 are mutually supplementary, because the application of the new regulations will ensure and promote the implementation of the three no's in the maintenance of locomotives.

2. The railway and local government maintenance technology and maintenance regulations must be faithfully carried out, so as to raise the level of this work. Maintaining a high level of maintenance records supply the criteria for maintaining quality. They must be improved as required by the new section regulations. All personnel, and especially those actually doing the work, should be familiar with the regulations so that every one of them will it all time. This is to working with every piece of equipment. Their efforts

in doing so must be kept up, so that their work will meet the requirements. To further raise the level of standardization and to strictly enforce the rules of quality control in a way that will be easy for the workers to understand and remember, we can review our experiences and carry out experiments in the improvement of technology.

3. We should continue to reorganize and strengthen the control of interchangeable parts, so as to meet the requirements of maintenance and reduce the use of funds. We should study the scope of interchange, the quantities to be exchanged, the system of control, the accounting of these parts, the measures for practicing economy, and the capabilities of the control personnel; improve them; and work out scientific and rational regulations to be enforced.

4. Based on the characteristics of the reform in motive power, we should actively explore new theories, try them out in practice, and continue to sum up our experiences. Along with the progress of the drive for socialist modernization, improvements in railway motive power will be much faster, the demands on railways will be much higher, and the new type of motive power will play a more active and important part in railway transportation. On the basis of consolidating our gains, therefore, we should continue to explore such problems as the problem of the system of maintenance for diesel and electric locomotives and maintenance of the equipment of power supply for traction, the technique of troubleshooting vis-a-vis diesel and electric locomotives, the upgrading and updating of the technical equipment, and other new problems; we should conscientiously solve these [problems] in practice and constantly sum up our new experiences.

Inspired by the spirit of the 12th Party Congress, all the participating comrades pledged to exert their efforts in their workposts and under the leadership of the party, and to continue to make new contributions to the creation of a new situation by relying on the leadership and uniting with the broad masses.

TRANSPORTATION

POLICY ON OPTIMAL TYPE OF RAILWAY MOTIVE POWER DISCUSSED

Zhuang JICHU (JANGHUANDONG [ELECTRIC DRIVE FOR LOCOMOTIVE]) in Chinese No 4, 1982 pp 8-12

[Article by Jin Chenhu [685: 6591-5706] and Rui Yulan [1360: 3768-6695] of Scientific Research Academy of Ministry of Railways: "Discussion of the Policy on Technology of Motive Power in Our Country"]

Until now we have achieved a certain amount of success in developing railway motive power in the past 25 or 30 years. It has been 25 years since the formulation of the principle that "transformation of motive power should be the central link of the policy on technology so that steam locomotives can rapidly and systematically be replaced by electric and diesel locomotives." However, we still have different opinions with regard to this principle.

The comrades in favor of steam locomotives playing the leading role feel that since the price of petroleum and petroleum products will continue to rise, the advantages of diesel traction will be further reduced, so that on the main and important railways, steam traction is more economical. In secondary and branch railways of transport, however, electric traction is the most economical of the three types of traction. If the volume of transport is large and the gradient is high, then the value of electric traction will be even more obvious.

Those comrades who favor the leading role of diesel locomotives maintain that electric traction of diesel locomotives can be reduced to a level below that of steam traction, while electric traction costs more than diesel. Furthermore, the lines served by electric locomotives can be so made to be more than double-track, whereas diesel locomotives in mountainous regions with double-track, automatically single-track lines. Therefore, the trunk lines in the coastal areas should be electric traction rather than diesel traction.

The comrades favoring electric traction hold that in determining the motive power of our railways, we should optimally develop both electric and diesel traction, with electric traction in the lead. Electric traction should be used first on the trunk lines with heavy traffic, and then on lines with high gradients and high capacity. Diesel traction should be used in places where water and fuel are scarce, and on lines that have less traffic but do

have switchyards. In those areas where traffic is light and the supply of coal and water is plentiful, the role of existing steam locomotives should be given full play. The policy on the technology of railway motive power should be: "Simultaneous development of diesel and electric traction, with electric traction in the lead; development of electric traction on the busy trunk lines; in sections with less traffic, and to facilitate switching, diesel traction should be developed. Steam traction is to be gradually phased out...."

All these views have their common ground in the following respects:

1. At the present stage, the steam locomotive is still the main form of motive power. Therefore, it should be carefully improved and used so as to raise its thermal efficiency and reduce coal consumption.
2. The role of diesel locomotives should be actively developed on the lines in places where there is switching to be done, where low traffic, forests, and a supply of oil prevail, and where water is either scarce or inferior in quality.
3. In mountainous areas, especially those with steep slopes and many tunnels, electric locomotives can give better performance. Therefore, as long as it is justified by the load, the adoption of electric traction should produce better technical and economic results.

There are also differences in these views. They are as follows:

1. The manufacture of steam locomotives should end by 1985, with their utilization halted in 15-30 years.
2. As oil prices continue to rise, the economic value of diesel traction will be even less.
3. Electric traction costs more than diesel traction. In mountainous areas, the load hauled by an electric locomotive cannot be more than that [hauled] by a diesel locomotive. In a double-track, automatic block section, the load of an electric locomotive cannot be increased. Therefore, trunk lines in the coastal areas should be converted to diesel rather than to electric traction.

Despite the different views and different ways of calculation on the development of railway motive power and on its technical and economic evaluation, we still feel that the following principles should be followed:

1. Since locomotives provide the motive power for railway transport, and since the transformation of motive power is the central link in the technical transformation of railways, the development of railway motive power must therefore first satisfy the daily growing transportation needs in our country, and a suitable form of traction must be chosen in accordance with the development of the national economy and the increase in traffic.

2. The development of railway motive power must be consistent with the state's energy policy. Since railways are one of the main consumers of state energy, the judicious use of energy will not only be of great economic significance in the national economic development, but it will also play an important role in lowering the costs of railway operation and in ensuring a reliable supply of fuel for motive power.

3. In developing railway motive power, we must fully consider the economic results. Our long-range and short-range plans must be worked out on the basis of macroeconomics and in the light of our national conditions and the realities of our railways, so that, provided our transportation tasks can be completed, we can achieve maximum economic results with minimum consumption.

At the same time, due consideration should be given to environmental protection while developing automation and modernization in the operation and management of railways.

Based on these principles, we will proceed with our analysis and discussion of the following aspects.

1. Development of Railway Motive Power, and the Judicious Use of Energy

The policy on railway motive power must conform to the state's energy policy. Therefore, we must analyze the exploitable reserves of various forms of energy in the world and the level of energy consumption, substitute sources of energy for the future, the trend of development of our energy reserves, and the exploitation and consumption of energy, as well as the efficiency of the various forms of motive power in the utilization of energy, and the amount of consumption.

The amounts of energy reserves which are ready for exploitation in the world are: 490 billion tons of coal, 640 billion tons of petroleum, 71 trillion cubic meters of natural gas, and 2.19 million tons of uranium. If they are all calculated in terms of liters of petroleum, then the amount of coal is equivalent to 342 billion kiloliters; that of petroleum, 102 billion kiloliters; that of natural gas, 70 billion kiloliters; and that of uranium, 23 billion kiloliters. If 1 stands for the uranium reserve, then the ratios of the other energy resources in the order of uranium:coal:petroleum:natural gas will be 1:14.9:4.4:3.0. From this, we can see that coal reserve is the largest, being more than three times the petroleum reserve and nearly five times the natural gas reserve.

The period from this century to part of the next century can be divided into four stages. The period from 1900 to 1950, approximately, was mainly the age of coal, during which, coal consumption accounted for 80 percent of the total energy consumption in the world. The ratio of coal consumption was later reduced to 61 percent (in 1950). At the same time, the ratio of petroleum consumption rose from 10 percent to 27 percent. In 1950-1980, the core of world energy veered from coal to petroleum. The ratio of coal

consumption quickly dropped to approximately 25 percent by 1980, while the ratio of petroleum consumption rose to approximately 50 percent and will remain at that level up to the end of the century. Those 20 years will also witness the transition from petroleum to coal consumption, since the ratio of petroleum consumption will drop and that of coal consumption will rise again. The period from 2000 to 2040 will be the age of a chronic energy crisis, and after 2040, the age of solar energy and nuclear energy will begin. In the next 20 years, the shortage of petroleum for world demand will become increasingly acute. The shortage of 1.8 million barrels per day in the 1980's will gradually increase to a shortage of 15-20 million barrels per day, being one third to one fourth the annual requirement in 2000, or equivalent to 1.1-1.52 billion tons of coal for that year.

Among the fuel resources in our country, coal deposits amount to over 600 billion tons. If the ratio between reserves and extraction is calculated at 10 percent and the annual extraction is 0.6 billion tons, then extraction can continue for more than 100 years. [figures as published]

As for petroleum, the verified reserve is only several billion tons. If we cannot follow up with prospecting, there will inevitably be some handicap to the industrial departments that must use petroleum and to diesel locomotives. Of the 100 million or more tons now being produced each year, only approximately 40 million tons, or 40 percent, are burned up as fuel. Since petroleum prices are continuing to rise in the international market, it is even more necessary for us to conserve our fuel in the effort to increase our foreign exchange earnings. It is estimated that in our country, the price of petroleum and finished petroleum products will be further raised. Petroleum is not only an energy source but also a precious raw material for the chemical industry. Since we do not have enough petroleum resources in reserve, petroleum conservation is now the urgent need of the moment.

The production of electricity as a secondary energy source totaled 300.6 billion kwh in 1980, including 58.2 billion kwh, or 19.4 percent, of hydropower. For the generation of thermopower, more than 130 million tons of coal and approximately 20 million tons of petroleum, equivalent to 21 percent of the total consumption of coal, petroleum, and natural gas in the country, were used. Because of the shortage of primary energy, vigorous development of hydropower is now very important. Our hydropower resources rank first in the world, with a potential of 680 million kw, and 3.7 trillion kw can be exploited. The amount of electricity generated annually is 1.9 trillion kwh. This is an important material base for our power industry.

Of the total output of primary energy in our country, calculated in terms of standard fuel, 71 percent is coal, 23 percent is petroleum, 3 percent is natural gas, and 3 percent is hydropower and atomic energy (all approximate figures). It is not difficult to predict that thermopower generation in the future will depend largely on the burning of coal.

Since all three energy sources, namely coal, petroleum, and electricity, are insufficient in our country, it is even more necessary for us to conserve our energy and raise the rate of energy utilization. Our energy utilization rate is only 28 percent, far below that of Japan, the Soviet Union, and the European and American countries. The railway sector, as one of the four major consumers of fuel, used approximately 18.52 billion tons of coal, 680,000 tons of diesel oil, and 287 million kwh of electricity in 1980, which amounted to 3 percent, 5 percent, and 0.09 percent, respectively, of the national output of coal, diesel oil, and electricity. Although such consumption is by no means high, we should nevertheless choose the form of traction that can complete the same transport task with the least consumption of energy. As we all know, the thermal efficiency of steam locomotives in our country is approximately 6 percent, while that of diesel and electric locomotives is approximately four times higher.

In 1980, for every 10,000 ton/kilometers, steam locomotives consumed 106.4 kilograms of standard coal; diesel locomotives consumed oil equivalent to 51.5 kilograms of standard coal; and electric locomotives consumed electricity equivalent to 53.6 kilograms of standard coal. This clearly shows that steam locomotives used the highest amount of fuel, with electric locomotives using the second highest. Thermal-power equipment in our country is backward and of low thermal efficiency. Of the existing thermal-power generating sets, approximately one third are of low or medium voltage, and their coal consumption is very high, with an average of more than 500 grams per kwh and a thermal efficiency of only 24 percent. Some small generating units consume as much as 1,000 grams of coal per kwh. It must be pointed out that in the 32 years since liberation, the average consumption of standard coal has been lowered from 700 grams to 413 grams per kwh. Along with an increase in the use of high-temperature and high-voltage units, coal consumption is expected to be further reduced. At the same time, when electric locomotives "go downhill," electricity consumption will also go down. Therefore, fuel consumption by electric locomotives for every 10,000 ton/kilometers will be lower than that of diesel locomotives in the future.

These energy factors must be considered when the policy on motive power is worked out.

II. The Suitability of Various Tractive Forces to Load

One of the special characteristics of our railway transportation is the operation of mixed passenger-freight trains, with priority to freight transport. The future task is mainly to increase the trainloads on the busy trunk lines and appropriately raise the running speed as a means of resolving the contradiction between load and load capacity.

At present, aside from the Dongfeng₃, Dongfanghong₁, Dongfanghong₃, Dongfeng₄, Beijing, and a small number of imported diesel locomotives which are used for 40 percent of the passenger transportation, the home-produced Qianjin steam locomotives with strong horsepower, Dongfeng₄ motor-driven diesel locomotives, and Shaoshan 1 electric locomotives are mainly relied on for

freight transport. Long operational experience has shown the typical characteristics of each of these three types of locomotives; the efficiency of Shaoshan 1 in particular has already produced remarkable economic results. For example, before electrification was carried out on the Baofeng section, three steam locomotives were used to haul a trainload of 960 tons. Since electrification, three locomotives can haul a trainload of 2,400 tons, a 1.7-fold increase over the previous load. This increase has resulted in uniformity of loads throughout the entire line, besides reducing the work of load adjustment in the classification yards.

But what will be the performance of these three types of locomotives on a plain with a limiting gradient of 0.6 percent? Let us compare them as follows.

1. Tractive Force of Three Types of Locomotives Compared

According to the "Rules for Calculating Train Haulage," the loads to be hauled by three different types of locomotives on automatic block, double-track lines at gradients of 0.4 and 0.6 percent are shown in Table 1.

Table 1. Loads (in tons) Hauled on Automatic Block, Double-Track Lines

Type of Locomotive	0.4 percent	0.6 percent
Shaoshan 1	5,350	4,200
Dongfeng ₄	4,400	3,450
Qianjin	2,850	2,200

The maximum haulage capacity when train departures are separated by 10 and 8 minutes is shown in Table 2.

Table 2. Haulage Capacity (in 10,000 tons) on Automatic Block, Double-Track Lines

Type of Locomotive	I = 10 min.		I = 8 min.	
	0.4%	0.6%	0.4%	0.6%
Shaoshan 1	6,800	5,300	8,500	6,700
Dongfeng ₄	6,100	4,800	7,000	5,500
Qianjin	3,900	3,000	4,500	3,500

Note: I = Departure separation time; 15 percent of haulage capacity to be deducted for reserve capacity; when I is equal to 10 minutes, a total of 50 passenger and other trains which have to be split or made up en route should be deducted. In the case of electric traction, 1 hour of "roof aperture" capacity should be deducted; when I is equal to 8 minutes, 1 hour of "roof aperture" and other maintenance and repair time should be deducted.

This table shows that when I is equal to 10 minutes and the gradient is 0.6 percent, the maximum haulage capacity of Shaoshan 1 is 10 percent greater than Dongfeng₄ and 77 percent greater than Qianjin, while Dongfeng₄ is

60 percent higher than Qianjin. When I is equal to 8 minutes, the haulage capacity of the new type of traction is even greater.

2. Comprehensive Capacity Compared

The haulage capacity of railways is affected not only by the motive power of the locomotive but also by the effective length of the station line and the net load of the rolling stock. According to investigations, the effective station lines of more than 70 percent of our six large trunk lines are more than 850 meters, and some of them are, or are planning to be, as long as 1,050 meters. Based on conditions of dismantling, removal, and transformation, it is practical to plan on an increase of up to 1,050 meters. Therefore, the effective length of station lines will be considered 850 meters in the immediate future and 1,050 meters in the distant future. In accordance with the statistics and estimates based on the makeup of freight trains, the load for each meter of rolling stock is now 5 tons and will be 5.52 tons in 1990; when the effective length of the station line is 850 meters, the weight of the train will be 4,000 tons in the immediate future and 4,350 tons in the distant future. When the effective length of the station line is 1,050 meters, the train weight will be 5,000 tons in the immediate future and 5,350 tons in the distant future. At a 0.6 percent gradient, its haulage capacity is shown in Table 3.

Table 3. Haulage Capacity (in 10,000 tons) on Automatic Block, Double-Track Lines

Type of Locomotive	Effective Length of Station Line = 850 meters		Effective Length of Station Line = 1,050 meters	
	I = 10 min.		I = 8 min.	
	5 tons per km	5.52 tons per km	5 tons per km	5.52 tons per km
Shaoshan 1	5,000	5,300	6,700	6,700
Dongfeng ₄	4,800	4,800	5,500	5,500
Qianjin	2,800	2,800	3,500	3,500

Note: On 0.6 percent gradient.

At present, our national trunk lines are designed on the basis of a 0.6 percent gradient and an effective length of station line of 850 meters for a trainload of approximately 4,000 tons in the near future and 5,000 tons in the distant future.

From Table 3, we can see that when I is equal to 8 minutes, the haulage capacity of electric traction is 22 percent higher than diesel traction and 91 percent higher than steam, and that the haulage capacity of diesel traction is 57 percent higher than that of steam.

III. The Need To Stress Economic Results in Choice of Motive Power

So-called good economic results mean greater loads to be hauled at less investment and expenditure.

Under the same technical line conditions and with the same loads, the investment based on an ideal design is shown in Table 4.

Table 4. Investment (in 10,000 yuan) for Every Kilometer for 60 Million Tons on Double-Track Lines

<u>Type of Locomotive</u>	<u>0.4 percent</u>	<u>0.6 percent</u>
Shaoshan 1	81.1	87.9
Dongfeng ₄	64.9	80.5
Qianjin	(unable to fulfill task)	--

From Table 4, we can see that if the load on double-track lines is further increased, no additional investment is required in power supply equipment after its one-time completion. However, because of the low speed of diesel traction, the number of locomotives has to be greatly increased. Therefore, the investments in electric traction and in diesel traction are fairly close to each other.

Some people now cite the Shi-Tai line as an example and maintain that a mere look at its construction cost of 2.7 million yuan is apt to scare people away. We have studied this matter and found that the actual investment in electrification was only 24 percent, or 670,000 yuan of the entire amount (including incidental expenses for the necessary transformation of the line), and this figure is fairly close to the one based on the ideal design. The main cause of this situation is that state investments are directly allocated to the construction units, which, in using these funds, are not held economically responsible. Thus they are free to expand the work and to add many capital construction projects that have nothing to do with the electrification. In so doing, these construction units have not only increased the expenditures but also prolonged the construction period. This is obviously improper.

Economic results are also shown in the operating expenditures, or the cost of operation.

Under the same technical line conditions and with the same loads, the cost of operation for every 10,000 ton/kilometers of the various forms of traction on flatland is shown in Table 5.

Table 5. Operation Cost (in 10,000 yuan) for Every 10,000 Ton/Kilometer

Type of Locomotive	Double-Track Line 40 Million Tons		Double-Track Line 6,000 Million Tons	
	0.4%	0.6%	0.4%	0.6%
Shaoshan 1	42.1	45.0	39.4	42.2
Dongfeng ₄	43.2	47.5	41.6	46.0
Qianjin	29.0	32.5	--	--

The calculation table shows that when the load is 40 million tons and the train runs at a 0.6 percent gradient, the cost of Shaoshan 1 is 5 percent less than that of Dongfeng₄ and 38 percent higher than that of Qianjin. When the load is 60 million tons, steam traction will be ruled out, while the cost of electric traction is 9 percent below that of diesel traction. These calculations are for the direct cost of the load, and this cost is only approximately half of total operating costs. Therefore, even an increase in the load does not greatly affect the indirect costs. If the indirect costs are taken into account, there is no doubt that the operating costs will drop markedly as the load increases.

If both the investment and the operating costs are taken into account, the recovery of additional investment will be shown in Table 6.

Table 6. Double-Track Line Investment Recovery Period (Year)

Load (in 10,000 tons)	Shaoshan 1 vs Dongfeng ₄ [as published]	
	0.4%	0.6%
3,000	15.9	9.3
4,000	8.6	4.7
5,000	5.4	2.6
6,000	3.6	1.3

This table shows only the period required to recover the investment in the railway, without taking into account the savings and benefits to the national economic sectors made possible by the increased speed of the train, which reduces the tying up of circulating funds by the cargoes en route.

Table 6 shows: (1) At both 0.4 percent and 0.6 percent gradients, the increase in the load shortens the period required for the recovery of the additional investment in electric traction. When the load is increased to 60 million tons, the investment will be recovered in slightly more than 1 year. (2) Recovery of the additional investment will be earlier if the gradient is increased.

IV. Basic Views on the Development of Tractive Force in Our Country

From these tables, we can see that the new types of traction are capable of handling a larger load than steam traction can. This is particularly true of electric traction, which in addition to hauling a larger load can help

conserve energy and produce better economic results. With our present limited financial resources, therefore, we should gradually introduce electric traction on those busy lines where the volume of traffic is too much for steam traction to cope with. With special attention to the transportation of coal out of Shanxi, Shaanxi and Henan, we should form an electrification network with the Jing-Guang, Feng-Sha-Da, Jing-Qin, Shi-Tai, and Western Longhai lines as the backbone, and this network should be connected with the southwest and northwestern networks and be under overall management. We will accumulate more experience on the busy lines and strive to take care of the vast majority of passenger and freight transportation with a small number of electrified lines.

We should also actively develop diesel traction and continue to improve the quality of diesel locomotives. Rather than too many, there now are not enough diesel locomotives in our country. Because of their high thermal efficiency, their fairly strong tractive force, and their flexible performance, they should play a positive role in raising our passenger transportation capacity, in facilitating our switching work, and in undertaking part of our freight transport.

For the time being, steam is still the main motive force in our country. Therefore, we must improve the thermal efficiency of steam locomotives and bring their role into full play. This is the real dependable foundation for the fulfillment of our transportation task. However, because of some fatal weaknesses in steam locomotives, we should gradually replace steam traction with the new and more efficient forms of traction, along with the development of motive power in our country and the increase of traffic in the state--provided our financial and material resources permit.

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TRANSPORTATION

DEVELOPMENT OF RAILROAD MOTIVE POWER STUDIED

Zhuzhou JICHE DIANCHUANDONG [ELECTRIC DRIVE FOR LOCOMOTIVE] in Chinese No 4, 1982 pp 2-5

[Article by Dong Zhaomin [5516 0340 3046] of Scientific Research Academy of Ministry of Railways: "On the Direction of Development of Motive Power for Railways in Our Country"]

[Text] I. Foreword

In his report on the work of the government at the Fourth Session of the Fifth National People's Congress, Premier Zhao Ziyang said: "The energy industry and transportation are now the weak links in the chain of our economic development. Whether our economy can keep on growing at a comparatively high speed and whether a new expansion will come about depends largely on the proper solution of the problems of energy and transportation....

"The building of the energy industry and transportation should go hand in hand, with the latter starting up a bit earlier. Only thus can excavated coal, for instance, be moved out in time. For a number of years, the central authorities should give top priority to the needs of transportation, including the building of harbors, when allocating investments for construction. Railway sections with low transport capacity and harbors with low handling capacity should be the first to undergo technical transformation....

"Every means should be used to adapt transportation to the needs of expanded production and construction throughout the economy."

Communications and transportation are now the weak links in the chain of our economic development. This is even more true of railway transportation, which is a main artery in the national economy. The practice of "passenger transport congestion," "stockpiles of goods awaiting transport" and "termination of production according to transport capacity" is now quite common, and the situation is continuing to deteriorate. At present, traffic on one third of the railway sections has exceeded their capacity by 90 percent; and in 20 percent of the sections, traffic has reached the saturation point. The capacity of some sections is only enough for 70 percent of the volume of traffic, and that of some boundary points is enough for only 50 percent of the volume. Recently, passenger trains have generally been

overloaded by 30 percent. On National Day, the Spring Festival, and other festive occasions, the overloading has sometimes been 100 percent. The addition of each passenger trip will necessitate a reduction of 2.2 cargo trips and will further increase the pressure on freight transport. Therefore, speeding up the technical transformation of the motive power of our railways is an important matter which must be attended to.

Speaking of the need to "carry out technical transformation step by step in key units and make the maximum use of existing enterprises," Premier Zhao Ziyang pointed out: "In the past, we carried out expanded reproduction chiefly by building new factories, which had to be done in the period of laying the foundation for industrialization. Now that China already has several hundred thousand enterprises in industry and transport, we will have to rely chiefly on the technical transformation of existing enterprises and on their initiative for expanded reproduction in the future. The good results obtained by many enterprises in this regard indicate that this course will yield faster results and greater economic returns and will call for smaller investments than the building of new enterprises." The existing railways are intended for meeting the existing enterprises' requirements for transportation. To bring into play the initiative of the existing enterprises, we must first step up the technical transformation of the existing railways and greatly increase the hauling capacity of the existing main trunk lines in order to pave the way for developing the initiative of the existing enterprises.

The trunk lines of the main railways linking our coastal areas with the inland and the areas inside the Great Wall with the areas beyond it and bringing coal out of Shanxi, such as the Jing-Guang [Beijing-Guangzhou] line, the Longhai [Shanxi-Qinghai] line, the Jing-Fu [Beijing-Shanghai] line, the Jing-Shen [Beijing-Shenyang] line, the Har-Da [Harbin-Dalian] line, the Zhe-Gan [Zhejiang-Jiangxi] line and the Jing-Bao [Beijing-Baotou] line, have a total length of more than 9,000 kilometers, only 18 percent of the total operational mileage. However, they handle 80 percent of the total passenger and freight traffic by rail. If technical transformation is not quickly carried out on these trunk lines so as to increase their hauling capacity by a wide margin, it will be impossible to increase the total industrial and agricultural output value by a wide margin.

Speaking of the need for "5 years or more to make further readjustments not only in the relationships between the different sectors of the national economy and within the individual sectors," Premier Zhao Ziyang said: "The tasks of readjustment, restructuring, consolidation, and improvement of the economy will be extremely strenuous in the plan period, and such parts of the infrastructure as energy and transportation will still be in the process of renovation and construction. Therefore, it will be impossible for our economy to grow very rapidly during the Sixth Five-Year Plan.... We can expect more rapid development during the Seventh Five-Year Plan, and still more rapid development in the following decade. That is to say, we shall most probably enter a new period of economic renewal in the last decade of the century. After this period of renewal begins, our economy

should not only develop at a good rate, but also yield impressive practical results.... Under the correct leadership of the CPC, we must mobilize and organize all our people to try to double and redouble China's total industrial and agricultural output value within 20 years through enhanced enthusiasm, concerted effort, arduous struggle, and thrift in order to raise the level of consumption and enable the people to achieve a relatively comfortable standard of living." To attain this objective, prior to 1990 we should raise our communications and transportation up to a level compatible with the overall requirement for production and development. That is why the task of technical transformation of the existing railways during the Sixth Five-Year Plan and the Seventh Five-Year Plan will be very arduous. According to a preliminary estimate, through technical transformation we should increase the mileage of sections with greatly increased haulage capacity to nearly 15,000 kilometers, and an annual average of more than 1,500 kilometers has to be transformed so that in 1990, the mileage of the sections after the technical transformation will amount to 30 percent of the total operational mileage. By that time, the haulage capacity of the railways will be increased by a wide margin.

II. Direction of Development of Railway Motive Power

As for the direction of development, railway motive power should be developed mainly in the direction of increasing the haulage capacity of the existing main trunk lines of railways and in adapting the types of motive power to the requirements of the daily increasing passenger and freight transport. Now let us conduct an analysis and try to find out which of the three types of motive power (electric, diesel and steam) now being used by our railways can more effectively increase the haulage capacity of our existing railways.

(1) Choice of basic numerical data:

Chosen effective length of station line: 850 meters.

Train weight limited by effective station line: 4,000 tons in the immediate future and 5,000 tons in the distant future.

Maximum speed for freight trains, 80 kilometers per hour.

Maximum speed for passenger trains, 120 kilometers per hour.

Section: Automatic block system, double track.

Limiting gradients: 0.4 percent, 0.6 percent, 0.9 percent, and 1.2 percent.

Electric traction with Shaoshan No 1 type locomotive (called Shao 1 for brevity).

Diesel traction with Dongfeng₄ locomotive (called Dongfeng₄ for brevity).

Steam traction with Qianjin locomotive (called Qianjin for brevity).

(2) Operational data for three forms of traction in sections with different limiting gradients are shown in Table 1.

Table 1. Operational Data for Three Forms of Traction in Sections With Different Limiting Gradients

A	B	C	D 区段运行数据																
1	限坡	坡E	4%				6%				9%				12%				
2	机车型号		P 471	G 东风	H 前进	P 471	G 东风	H 前进	P 471	G 东风	H 前进	P 471	G 东风	H 前进	P 471	G 东风	H 前进		
3	限坡上启动重量	I 吨	5700	4600	3200	4360	3580		2400	3200	2600	1800	2390	1944	1400				
4	选用的列车重量	J 吨	4000	5000	4000	4500	3200	4300	4000	3500	3000	2500	2500	3200	2600	1800	2400	2000	1400
6	限坡上列车运行速度	公里/小时	57	50	30	27	35	45	48	26	30	34	32	40	25	30	41	25	30
6	计算的追踪时间	K 分	5	6	9	10	7.8	6.5	6	10.5	9	8	8.5	6.8	10.8	9	6.7	10.8	9
7	选用的追踪时间	分	6	6	9	10	8	6.5	6	10.5	9	8	8.5	7	11	9	7	11	9
8	平行图通过能力	L 对	240	240	160	144	180	220	240	137	160	180	169	205	130	170	205	130	160
9	扣除 20 对客车	L 对	44	44	44	44	44	41	44	44	44	44	44	44	44	44	44	44	44
10	电力牵引扣除 2 小时天窗时间	L 对	20	20			19	20					17			17			
11	非平行图通过能力	L 对	176	176	116	100	136	157	176	93	116	136	125	144	86	116	144	86	116

Note: 1. The coefficient to be deducted for each passenger trip is 2.2.
2. For electric traction, the roof aperture has to be opened 2 hours each day for maintenance and repairs on the power supply system.

Key:

- | | |
|--|---|
| 1. Limiting gradient | 11. Traffic capacity in nonparallel diagram |
| 2. Locomotive type | A. Order |
| 3. Weight on starting at a limiting gradient | B. Item |
| 4. Train weight | C. Unit |
| 5. Speed of train at limiting gradient | D. Operational data for the section |
| 6. Calculated tracking time | E. Grade |
| 7. Selected tracking time | F. Shao 1 |
| 8. Traffic capacity in parallel diagram | G. Dongfeng ₄ |
| 9. Deduction for 20 passenger trips ¹ | H. Qianjin |
| 10. Deduction for opened roof aperture 2 hours each day ² | I. Ton |
| | J. Kilometer/hour |
| | K. Minute |
| | L. Trip |

(3) The value of haulage capacity for the three forms of traction in sections of different limiting gradients is shown in Table 2.

Table 2

A	C		
	(1)	(2)	(3)
B	1.52~1.96	1.62~2.02	1.03~1.07
4%	1.93~2.16	2.16~2.25	1.04~1.11
6%	2.06	2.20	1.07
9%	2.0	2.13	1.06
12%			

Note: Deduction of haulage capacity for preparations during operation of steam traction not included.

Key:

- | | |
|--------------------------|-------------------------------|
| 1. Shao 1 | A. Limiting gradient |
| 2. Dongfeng ₄ | B. Value of haulage capacity |
| 3. Qianjin | C. Forms of traction compared |

(4) Analysis of data:

From Table 2, we can see that the lowest ratio of haulage capacity for Shao 1 to that of Qianjin is 1.62 at all gradients, while all the others are all over 2.02. This means that, with the exception of the 1.62 ratio, the haulage capacity of electric traction after technical transformation in an automatic block, double-track section will more than double that of steam traction. The contributing factors to the 1.62 value are that, for Shao 1, the weight on starting at a 0.4 percent limiting gradient is 5,700 tons, and the weight of the train limited by the effective station line is 4,000 tons for the immediate future, causing a 30-percent loss of tractive power. On the other hand, the starting weight at a 0.4 percent limiting gradient for Qianjin is only 3,200 tons, which is less than the 4,000 tons of train weight. That is why Qianjin's tractive power can be fully utilized, and why the haulage capacity of Shao 1 is only 1.62 times that of Qianjin's. Even so, Shao 1's haulage capacity is still greater than that of Qianjin by 62 percent. When the makeup of a train as permitted by an 850-meter effective length of the station line is 5,000 tons, the haulage capacity of Shao 1 at a 0.4 percent limiting gradient will be 25 percent higher than what is required for a 4,000-ton train, and its ratio to that of Qianjin will be increased from 1.62 to 2.02. Therefore, in a 0.4 percent limiting gradient section in the distant future, the haulage capacity of electric traction will be twice that of steam.

In a 0.6 percent limiting gradient section, the ratio of haulage capacity of electric traction to that of steam traction is 2.25 times. This ratio is the

highest because Shao 1 hauls a load of 4,000 tons, which is 8 percent less than the weight of 4,360 at the start of the same gradient. The train speed at this gradient is 48 kilometers per hour, which is only 2 kilometers more than Shao 1's sustained speed of 46 kilometers per hour. On a flat stretch, the train can run at a speed of 80 kilometers per hour. That is why at a 0.6 percent gradient, the Shao 1 locomotive can be used to better advantage in increasing the haulage capacity by a fairly wide margin. From the largest ratio of its haulage capacity to that of Qianjin at 2.25 times, we can see that the performance of Shao 1 can be given full play on flatland, that its locomotive efficiency can be used to better advantage, and that its results for transportation are good.

The haulage capacity of electric traction after technical transformation in an automatic block, double-track section is equivalent to that of steam traction in an automatic block, four-track section. At present, the cost of constructing a double-track section is 2.3 million yuan per kilometer, while that of electrifying a double-track section is only 0.7 million yuan, the former being 3.29 times the latter. Therefore, technical transformation for electric traction will not only increase the haulage capacity of the existing railway sections several times over, but will also help save a large amount of state investment.

The data for the comparison of haulage capacity at different gradients are derived from a single locomotive's tractive power. The locomotive efficiency of Shao 1 is 4,200 kw, which is equivalent to 5,600 horsepower. The efficiency of a single Dongfeng₄ locomotive is 3,300 hp. Therefore, the former is 1.7 times the latter. If diesel traction is undertaken by two engines instead of one, the total horsepower will be increased to 6,600, which will be adequate for hauling a load of 4,000 tons at a speed of 52 kilometers per hour and a tracking speed of 5.29 minutes. It will be up to the haulage level of Shao 1.

For an economic comparison of the several forms of traction, the hauling capacity of the different forms must be reduced to the same level, and at the same time the value of the haulage capacity must approach the maximum value, before there can be a basis for comparison. To present roughly the results of the economic comparison of electric with diesel traction, we are now using the data supplied in two documents, namely: "Plans for Electrification of the Double-Track Section of the Longhai Railway From Zhengzhou to Baoji Concisely Explained" and "Technical and Economic Comparisons in the Electrification of Western Longhai Railway."

According to the former document, the haulage capacity of the section from Zhengzhou to Mengyuan after electrification was 54 million tons, a 1.7-fold increase over the 20 million tons prior to electrification.

According to the latter [document], when the traffic volume was 50 million tons in the section between Zhengzhou and Mengyuan, the investment and operating expenditure figures for both electric and diesel traction were as follows:

For electric traction, the total investment was 590.37 million yuan, and the annual operating expenditures totaled 114,367,000 yuan. For diesel traction, the total investment was 568.34 million yuan, and the annual operating expenditures totaled 161,526,000 yuan. Investment in electric traction is 22.03 million yuan greater than in diesel traction, but the annual expenditures on the former is 47,159,000 yuan less than on the latter. Thus, in 10 years, the difference between these two types of expenditures can be as much as 470 million yuan, or 21 times 22.03 million yuan. The economic results for electric traction are remarkable.

To ease the pressure of passenger transportation, we should increase the number of passenger trips in addition to adding more passenger coaches to the trains. However, the addition of each passenger trip will mean the reduction of 2.2 freight trips. Now let us calculate according to a tracking time of 10 minutes. The number of trips, according to the parallel diagram of the section, is 144. After deducting for 20 passenger trips, the number of trips according to the nonparallel diagram is 100, or 69 percent of the parallel diagram trains. If the number of passenger trips is increased to 30, then only 78 nonparallel trips, or 54 percent of the parallel ones, will remain, and passenger trips will account for nearly half of all parallel trips. If the tracking time in train operation is shortened to 6 minutes and the number of parallel trips is 240, a deduction of 20 passenger trips will still leave 196, or 82 percent of the parallel trips. If 30 passenger trips are to be deducted, the number of nonparallel trips will be 174, or 73 percent of the parallel trips. This will mean an increase of 13 percent and 19 percent respectively [for deductions of 20 and 30 passenger trips], if the tracking time is shortened from 10 to 6 minutes. Therefore, in alleviating the pressure of passenger and freight transport, we should arrange maximum loads for the trains according to the locomotive efficiency and the effective length of the station line, and, at the same time, shorten the tracking time and increase the traffic capacity of the sections. This is the main way to increase the haulage capacity of railways by a wide margin. From Table 1, we can see that the tracking time is 6-7 minutes for electric traction, 8-9 minutes for steam traction, and 9-11 minutes for diesel traction. The tracking time is shortest for electric traction and longest for diesel traction.

The rate of increase in the volume of railway traffic is the basis of the speed in the technical transformation of the railway motive power. How will the rate of increase in the volume of railway traffic be determined? According to relevant data statistics, the average progressive rates of increase in each of the 24 years from 1953 to 1977 were 8.1 percent in total agricultural output value, 11.2 percent in total industrial output value, and 9.8 percent in freight traffic. In the 30 years from 1949 to 1979, the average progressive rate for railway freight traffic was 8 percent, which was close to the 8.1 percent increase in the total industrial and agricultural output value. Therefore, the progressive rate of increase in industrial and agricultural output value in the years 1981-2000 should serve as the annual average progressive rate of increase to be used in the same period for forecasting the increase in railway freight transport.

The average progressive rate of increase is 6 percent in quadrupling in 2000 the total industrial and agricultural output value for 1981. Railway freight traffic should also be progressively increased 6 percent each year, so that in 1993 it will be 2.05 times the 1981 figure. In other words, the volume of freight transported by railway should be doubled in 12 years. How will the haulage capacity of the main trunk lines be doubled? This will be a very arduous task. Therefore, the only effective way is to expedite the technical transformation in electrification of the main trunk lines. It is impractical to use diesel traction as an interim measure, because diesel traction can raise the haulage capacity only 11 percent over that of steam (even though the reduction of haulage capacity resulting from the necessary adjustments during the operation of steam traction is not taken into account). The use of diesel traction as an interim measure would necessitate a second transformation, which not only would increase the investment but also would retard the increase in the railway's haulage capacity, thus doing more harm than good. Therefore, steam traction must be directly transformed to electric traction and the relevant departments should be organized to carry out technical transformation according to the requirements of various sections for maximum haulage capacity, with a view to doubling the haulage of the main trunk lines within the expected period.

To sum up what has been analyzed, the motive power for our railways should develop in the direction of electric traction, and we should strive to complete the electrification of the main trunk lines in the near future, so that at the turn of the century the mileage of electrified lines in our country will be increased to 30 percent of the total railway operational mileage, handling 80 percent of railway passenger and freight transportation. Transportation on the remaining 70 percent for passengers and freight will be undertaken by diesel traction.

III. Several Hopes Expressed

(1) In planning for construction investments, the central authorities have given priority to the need for transportation construction and will use electric traction on the main trunk lines in coordination with the technical transformation of railway motive power. It is hoped that in planning the power supply for the whole country, the central authorities will also give priority to the needs of electric traction for railways.

(2) The increase in haulage capacity for the main trunk lines calls for the coordination and cooperation of all departments in the rail system. Therefore, after achieving unity of purpose in railway electrification, we should strengthen the unified leadership, unified planning, and unified arrangements for railway electrification. Cooperation among the rolling stock, locomotive, engineering and electrical power sections in completing the technical transformation plan for railways, as required by the progress of the work, should be strengthened.

(3) Electric traction is not yet in popular use in our railways, and we do not have much experience in its operation and management. Therefore, we

must sum up our experiences in its operation and management in good time and train the required personnel. It is hoped that the relevant departments under the Ministry of Railways will pay due attention to this training program. The universities and vocational schools in the railway sector should set up the required special courses for personnel training in order to meet the demands of electric traction development in [our] railways.

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9411

CSO: 4006/086

TRANSPORTATION

FIRST PART OF QING-ZANG RAILROAD BASICALLY COMPLETED

Beijing GONGREN RIBAO 21 Sep 82 p 1

[Article by Qingmiao [7230 5379]]

[Text] The first part of the Qing-Zang Railroad from Hargai to Keke has been basically completed. In August, the Lanzhou Railroad Administration of the Ministry of Railroads, the Qinghai Provincial Construction Commission, and the Qinghai Provincial Construction Bank made an initial acceptance inspection. They found the road foundation, railline, bridges and tunnels good enough to meet traffic requirements. They are ready to take delivery within the current year and open it to traffic in January, 1983.

The first stage of the construction of the Qing-Zang railroad from the city of Xining to Kermu on the west covers 834.5 kilometers. The 181-kilometer sector between Xining and Kermu was turned over the state in 1975 for traffic. The 653.5-kilometer sector between Hargai and Kermu was layed with rails by September 1979. While efforts were being made to complete the connections, the line was temporarily opened to traffic in January this year.

The Ha-Ke sector stretches westward from the Hargai Station along the northern shores of the Qinghai Lake and through Guanjiaoshan to the Chaidamu Basin, and finally to the Keke Station in Wulanxian, a total of 250 kilometers. This line is on a plateau 3,000-3,700 meters above sea level, the highest railline elevation in China as of today. When the Xining-Keke line opens to traffic, it will provide transportation services to link western Qinghai to the various provinces on the one hand and to Xizang and Xinjiang on the other. It will also play an important role in exploiting the resources of the Chaidamu Basin, and in developing the agriculture, industry and animal husbandry of the Qinghai national minority region.

The surveying and designing personnel of the First Surveying and Designing Institute of the Ministry of Railroad responsible for designing the line braved the worst natural barriers to pick the most suitable route, and came up with a meticulous design. The railroad corps responsible for the construction of the linedid an excellent job as they displayed their revolutionary spirit to overcome problems posed by thin air, arid climate, and sandstorms. They ran into unprecedented difficulties in the construction of the pivotal 4009-meter tunnel. They have not only completed the project as required but also learned a lot about railroad construction on a plateau.

5360

CSO: 4006/074

TRANSPORTATION

ANHUI-JIANGXI RAILROAD OPENED TO TRAFFIC 1 OCTOBER

Beijing CONGREN RIBAO in Chinese 1 Oct 82 p 1

[Text] The Wan-Gan [Anhui-Jiangxi] Railroad which cut across Anhui and Jiangxi provinces was opened to traffic 1 October.

Starting from Huolonggang near Wuhu, Anhui, the Wan-Gan railroad stretches southward to Guixi, Jiangxi, a total of 551 kilometers. The line is 300 kilometer shorter from Nanjing to Yingtang than the line via Shanghai, and eases traffic congestion along the Shanghai-Nanjing, Shanghai-Hangzhou, and Zhejiang-Jiangxi lines. Cutting through the mountainous region of southern Anhui, the line passes by Huangshan and Jingdezhen, the center of porcelain industry, to serve a number of localities known for mao bamboo, timber, the famous "Qimen red tea," "Tunxi green tea," Xuanzheng paper and Shexian inkstone. The railroad will no doubt play a very important role in developing communication services in the mountainous regions, shoring up the economy along the line, and expanding the tourist business of Huangshan.

The entire line was built section by section. Its southermost section between Guixi and Liyao had been open to traffic for quite some time. The section from Huolonggang to Liyao, south of Jingdezhen, a stretch of 406 kilometers, was finished by the hardworking staff and workers of the Fourth Engineering Bureau, Ministry of Railroads, by 4 December 1981. The original date for opening it to traffic was set for June, 1983. It has moved up to meet the needs of the national economy.

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CSO: 4006/074

TRANSPORTATION

RAILROAD SAFETY SAID THREATENED BY PRODUCTION BRIGADE

Beijing GONGREN RIBAO in Chinese 20 Sep 82 p 2

[Text] Lately, the Jinan Municipal People's Government, alerted by a letter to the editor, resolved with dispatch a problem that threatened the safety of railroad operations.

In early August this year, Qu Yansheng of the Taian Engineering Section, Jinan Railroad Administration, wrote to the editor of this paper (GONGREN RIBAO) that the Luo Er production brigade of Shao Er Commune, Licheng County, Jinan Municipality, had, without consideration for the safety of railroad operations, set up a sand yard by the foot of the Yufuhe River Bridge at the 367-kilometer plus 774-meters sector along the Tianjin-Pukou Railroad to dig up sand for sale. Taking no heed of the effort of the leadership of the Taian Engineering Section to dissuade them, they came in a Huanghe brand vehicle to dig even more extensively. When the responsible comrades of the Jinan Railroad Administration, the Jinan Railroad Office, and the Flood Control Command of the Taian Engineering Section came on 28 May this year to inspect the area, the sand pit they dug had reached as close as 7 meters away from the river bank. They explained to the commune members the danger, but they still refused to take heed of the warning.

On 2 June, the Jinan Railroad Office dispatched an urgent written report to the provincial, municipal and Xian people's governments and other responsible comrades, asking them to stop the Luo Er production brigade from digging. Supervised and urged by its superiors, the Luo Er production brigade promised to fill back the pit and pack it firm enough to meet the requirement of the railroad office. Actually, they refused to fill back any more after having filled back about 5 percent of the pit in 4 days. The letter went on to say: "Now as the flood season approaches, the railroad embankment by the bridge faces possible flooding. I therefore appeal to the leadership concerned to adopt decisive measures to insure the safety of railroad transportation."

When the Jinan Municipal People's Government received a copy of Qu Yansheng's letter forwarded by this paper on 4 August, it felt so concerned that it immediately directed the Licheng County government to handle the case. The day following the arrival of the letter (8 August), the Licheng County dispatched a man to the Shao Er Commune where the commune party committee and its administrative council decided on the same day to dispatch the deputy secretary

of the commune and the deputy chief of its administrative council to the Luo Er Production Brigade to investigate the case on the spot. After giving the responsible person of the brigade criticism and instructions, they worked out with the brigade three measures for filling back the sand pit. Two days later, 10 August, Yin Cheng-zhang, deputy magistrate of Licheng County, and Liu Qixiang, secretary of the party committee of Shao Er Commune, braved rain to inspect the sand pit. The leading comrades of the county and the commune went to the spot again on 14 August to inspect the progress of work. Most of the sand pit near the railroad bed has been filled back.

The Jinan Municipal People's Government wrote this paper on 20 August on its findings and the measures it had taken to resolve the problem, and said: "What we will do next is to instruct the county and the commune to designate full-time inspectors to inspect periodically the progress of the project to fill back the sand pit until it meets the requirement of the railroad authorities for closing the case, and to sum up the incident to educate the cadres and masses of the communes and production brigades along the railroad on how to protect the railroad and prevent similar incidents.

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CSO: 4006/074

TRANSPORTATION

LANZHOU RAILWAY WORKERS STUDYING CONGRESS REPORT

Lanzhou GANSU RIBAO in Chinese 17 Sep 82 p 1

[Article by Jinxin [6855 2502], Xinhua [1800 5478], Zhengren [2973 0088] and Juncai [0193 2088]]

[Text] The goals and tasks set forth by the Twelfth CPC Congress have been an immense source of inspiration to the broad masses of staff and workers of the Lanzhou Railroad Division, encouraging them to study the documents of the Twelfth CPC Congress, go over the changes, and pledge to do much more to improve railroad transportation.

The Lanzhou Railroad Division administers nearly 1000 kilometers of rail line and about 40 percent of the transport operations of the entire Lanzhou Railroad Administration. It was a "disaster victim" of destruction by the "gang of four" during the 10 disastrous years. It has changed tremendously since the Third Plenum of the Eleventh CPC Central Committee, and its transport services have also been expanding from year to year. Its volume of passenger and freight dispatch went over its quota of 1980 by 5.2 and 8.2 percent respectively. In 1981, the volume surpassed its quota by 2.5 and 1.3 percent respectively. In the first half of this year, it "passed the half way mark" in both timing and tasks. It holds a record of 400 days without serious traffic accidents in the last 3 years, the best accident-free period in the last 17 years. Better business has led to better living conditions for the staff and workers. The Division has constructed 28,000 square meters of dormitory space for over 1,000 single staff and workers. It has also constructed over 60,000 square meters of family-unit dormitory space to accommodate 1,380 staff and worker households, and made provisions for more than 7,600 youths awaiting job assignments. These changes of the last few years also include the training of a core of railroad transport leaders. Six old comrades of the original leadership core have volunteered after the Third Plenum of the Eleventh CPC Central Committee to take secondary positions, and they have been replaced by 5 younger cadres. The average age of the 12 members of the leadership core has dropped from 56 to 48, while the percentage of those with high school or college education has gone up from 25 to 66 percent. Better morale and greater enthusiasm generated by the study helped everyone to pledge to go one step further to make railroad transportation safe, punctual and unobstructed so as to usher in a new phase of socialist modernization.

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CSO: 4006/074

TRANSPORTATION

FIRST DUAL-PURPOSE BRIDGE OVER HUAIHE COMPLETED

Beijing CONGREN RIBAO 1 Oct 82 p 1

[Text] The Huaihe bridge, a key project of the Huyang-Huainan Railroad, was built in 2 years by the staff and workers of the Bridge Construction Bureau of the Ministry of Railroads. This is the first railroad-highway dual-purpose bridge over the great Huaihe. The Ministry of Railroads and the Anhui provincial authorities agreed to release the highway deck of the bridge for traffic in order to realize early returns on the investment and to accommodate the requirements for the construction the north and south Huai coal industry.

This magnificent bridge is double-decked. The upper deck for highway use is 3195.6 meters long and 11 meters wide with 1.5-meter wide pedestrian path on each side; the lower deck, 3,428.5 meters long, is for a double track railroad: only the Changjiang bridge at Nanjing is larger. It is located in the western suburb of Tianjiaan, Huainnan City, Anhui Province. Like a multi-colored band, it joins together the railroad and highway which cut across the north and south Huai regions. This Huaihe bridge once completed and opened to traffic will no doubt speed up the construction of the north and south Huai coal industry and shipment of coal to other provinces.

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CSO: 4006/074

TRANSPORTATION

SHANDONG MARITIME TRANSPORT RAPIDLY DEVELOPING

Jinan DAZHONG RIBAO in Chinese 1 Oct 82 p 2

[Article by Zhu Shijia [2612 0013 1367], Yin Zhenwei [1438 2182 4850] and Zhang Peirong [1728 1014 2837]]

[Text] The Third Plenum of the Eleventh CPC Central Committee has given a new lease on life to the maritime transport service of Shandong. The Maritime Transport Bureau of the Provincial Department of Communications has acquired last year 41 different vessels with a total tonnage of more than 52,000 tons, a noticeable improvement of the shipping facilities. More ships led to rapid expansion of coastal passenger and freight transport and oceanic shipping. In response to the development of foreign trade, Shandong began in 1980 to operate the Qingdao-Hong Kong shipping line, and "Luhai 65," a 10,000-ton freighter, was the first vessel to ship Shandong's exports to Hong Kong. The Qingdao-Japan line which began in February this year has four 10,000-ton freighters, namely "Zhenshu Quan," "Shuyu Quan," "Jinxian Quan," and "Jinhu Quan," to ply between Japan and Qingdao. These foreign trade vessels have shipped in the first half of this year over 350,000 tons of exports and imports, for a gross earning of more than 23 million yuan RMB of which 6.26 million yuan was profit. The new policy of the CPC to open the country to foreign trade and to activate domestic economy has given the maritime shipping in Shandong a new lease of life. The development of the coastal shipping of Shandong in the last few years has gone from intra-provincial to inter-provincial shipping, including shipping lines to reach Guangdong, Fujian, Zhejiang, Jiangsu and Liaoning. Vigorous trading and greater access to other markets have enhanced inter-provincial flow of resources.

The construction of local ports in Shandong has also been proceeding at a rapid pace. Huangdao, Fengcheng, Haimiao and Lanshan are some of the ports of Shandong that have been built or renovated in the past 3 years. There are 17 local coastal ports in Shandong with a total pier line over 4100 meters, and 17 1000-ton berths. The rebuilt Lanshan port has a cargo yard over 90,000 square meters in area, 18 times larger than the previous one. This increases the speed of cargo clearance. The annual volume of traffic at all the local ports in Shandong reached a total of 7.32 million tons by the end of 1981. More loading and unloading machinery, better loading and unloading processes, greater loading and unloading speed, and improved cargo handling capabilities have been introduced as the ports are being built or renovated. In the past

3 years, the ports have acquired forty-eight 8-ton or larger cranes and 5-ton or larger loading machines. With locally designed and manufactured loading and unloading machinery which meet the specific requirements of the ports of Shandong, over 90 percent of them are mechanized. This has basically eliminated the clumsy way of hauling and carrying by manual labor.

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TRANSPORTATION

OVER 3000 URBAN DIRT STREETS IN BEIJING UPGRADED

Beijing BEIJING RIBAO in Chinese 21 Sep 82 p 1

[Article by Cheng Junjing [4453 0193 0079]]

[Text] Inspired by the spirit of the Third Plenum of the Eleventh CPC Central Committee and the 4-point directive regarding the national capital construction program issued by the Central Committee Secretariat, the Municipal Administration Bureau and various concerned agencies of the several city districts pooled their manpower and financial resources and launched a gigantic project to upgrade the city dirt roads. A total of 3067 alley streets of all sizes amounting to 720,000 square meters in area were rebuilt in the last 3 years. This has made things more convenient for the masses, tidied up the city, and improved environmental quality and public health.

There are over 4,400 2-meter or more wide alley dirt roads in the 4 districts of the city, covering an area of more than 3 million square meters. Haunted by dust kicked up by wind and miry road surface during rain, these alleys inconvenience pedestrians and seriously affect environmental quality and public health. Assisted by the municipal construction departments, the several city districts had done a considerable amount of work since 1952 to rebuild the alley dirt roads. Due to tardy progress since late 1960's in rebuilding the alley dirt roads and laying sewage pipelines, one-third of major alley dirt roads and many minor alley dirt roads were still not rebuilt as of 1978. After the Third Plenum of the Eleventh CPC Central Committee, especially after the publication of the 4-point directive regarding the national capital construction program issued by the CPC Central Committee Secretariat, the Municipal Administration Bureau, led by the city government, worked out a new program dedicated "to serve the people and be accountable to the people" for rebuilding the alley dirt roads of the city. Guided by the principle "to tackle the key areas before tackling the ordinary ones; taking care of the city districts before taking care of the suburbs; laying sewage pipelines before doing road surface," the several city districts began rebuilding the alley dirt roads from block to block. By June this year, the dirt roads of 604 major alleys, 550,000 square meters in area, have been replaced with asphalt surface. At the same time, the several city district offices pooled their resources and covered 170,000 square meters of dirt roads, each less than 2 meters wide, in 2400 small alleys not accessible to road building machines.

The Xuanwu District government showed great initiative in rebuilding alley dirt roads. Short of funds allocated by the city, it raised funds to cover the areas where alley dirt roads are to be rebuilt. They adopted a policy of "road building by local people with state assistance" to encourage the masses to play an active role in rebuilding the alley dirt roads. In 3 years this district, which has the greatest number of alley dirt roads, was able to carry out substantially the task of rebuilding them. In addition to its road maintenance teams which had been organized to rebuild its major alley dirt roads, the east Beijing district raised funds and organized its young intellectuals waiting job assignments and the local residents to lay concrete slabs for alleys less than 2 meters wide. By the end of June this year, they have covered over 1530 alleys of various sizes with either asphalt or concrete slabs. The rebuilt roads, neat and smooth, are good for vehicular and pedestrian traffic even on windy and rainy days, a noticeable contribution to environment quality and public health.

Today there are still 830 major alley dirt roads awaiting rebuilding. They still inconvenience the residents of these alleys. The Municipal Administration Bureau and the governments of the districts concerned have worked out a plan to replace these dirt roads with asphalt roads in the next few years.

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CSO: 4006/074

TRANSPORTATION

OVERPASS CONSTRUCTION AT SHIYI JINGLU, TIANJIN REPORTED

Tianjin TIANJIN RIBAO in Chinese 22 Sep 82 p 1

[Article by Zeng Chonghe [2582 1504 0735]]

[Text] A group of leading comrades, including Chen Weida, First Secretary of the Tianjin Municipal Party Committee; Li Ruihuan, Secretary of the Municipal Party Committee and Acting Mayor; Wu Zhen, Deputy Secretary of the Municipal Party Committee and Deputy Mayor; and Chen Bing, Deputy Secretary of the Municipal Party Committee and Propaganda Department Director came to the Shiyi Jinglu overpass construction site yesterday (21 September) to inspect the progress of the construction project. They praised the bridge construction staff and workers for what they had accomplished and urged everybody to study and act in the spirit of the twelfth CPC Congress, and contribute as much as one could to help usher in a new phase of socialist modernization.

At 8:55 A.M., Chen Weida, Li Ruihuan and others arrived at the Shiyi Jinglu overpass work shed where they looked at the model of the overpass. A responsible person of the Municipal Public Works Bureau briefed them on the entire project, the progress of the first part of construction, and the plans for the rest of the project. Accompanied by the responsible persons of the Municipal Construction Committee, the Municipal Public Works Bureau, the Hedong District Party Committee, and the District Government, Chen Weida, Li Ruihuan and the rest of the group went to the bridge construction site.

The building of the Shiyi Jinglu overpass, a key project of municipal construction in Tianjin, began in April this year. With most of the overpass beams filled with concrete, and 8 of the 12 railroad overpass beams hoisted into position, the embryonic framework of the overpass has emerged. The construction site is abuzz with engine noises as people and vehicles bustle in and out festively.

Chen Weida and Li Ruihuan shook hands and chatted with the workers, urging them to pay close attention to both quality and speed in construction. They also watched the Tianjin trucking caravans of the Ministry of Communications hauling huge beams, each 32 meters long and 180 ton in weight, to the railroad bridge piers.

At an informal meeting after the inspection tour, Comrades Chen Weida and Li Ruihuan said they were pleased with the progress of the construction project, and commended the bridge building staff and workers for their unrelenting spirit to speed up the construction and their willingness to do more than called for.

Comrade Chen Weida said the construction of the Shiyi Jinglu overpass proves very satisfactory in speed, quality and effectiveness. All the correct and healthy things should be summed up and gathered together. The party Central Committee has reiterated the importance of cost-effectiveness. Everybody should emulate the spirit of the Twelfth Party Congress, raise one's level of understanding, and do our best to construct both material and socialist spiritual civilization. Our slogan calls for everybody to contribute toward opening up vistas of a new prospect. The Central Committee asks us to open up a new path. We have proposed to build a clean, civilized and beautiful new Tianjin, and its future looks really promising.

When the responsible person of the construction site said that under the inspiration of the spirit of the Twelfth Party Congress, the construction may be completed one month ahead of schedule, Comrade Li Ruihuan said it is a good world record to finish such a gigantic bridge in 7 months. The role of spiritual civilization must have contributed to the speed of the bridge construction. We should set good examples, praise the advanced, and channel the enthusiasm and vigor of the masses aroused by the Twelfth Party Congress to construction in order to push our work further ahead. The building of the Shiyi Jinglu overpass gives us confidence in the construction of Tianjin.

The inspection of the construction site by the municipal leading comrades is a morale booster to the bridge construction staff and workers who said: We must work harder.

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CSO: 4006/074

TRANSPORTATION

AVIATION FIRM TO SERVE DEVELOPING NATIONS

OW242008 Beijing XINHUA in English 1508 GMT 24 Dec 82

[Text] Taiyuan, 24 Dec (XINHUA)--A special aviation company serving the needs of China and other developing countries in industrial development was inaugurated today in Taiyuan, capital of north China's Shanxi Province.

The China Industrial Aviation Service Company, which has four branches in Taiyuan and Changzhi in Shanxi, Handan in Hebei and Tianjin, offers aerial photographic services and conducts remote sensing and mineral prospecting for China and other developing countries, Wang Taijin, manager of the company, told XINHUA.

"Helicopter and other services are available for foreign companies participating in the joint development of China's offshore petroleum resources," he said.

The company boasts 56 helicopters and transport and other planes and will buy more aircraft from abroad.

CSO: 4020/33

TRANSPORTATION

CIL AIR TRANSPORT DOUBLES IN PAST 4 YEARS

OW221401 Beijing XINHUA Domestic Service in Chinese 1459 GMT 16 Dec 82

[Excerpts] Beijing, 16 Dec (XINHUA)--According to materials provided by the National Conference on Civil Aviation Planning Work recent held in Beijing, China's civil aviation has been flourishing since the 3d Plenary Session of the 11th Party Central Committee, with air freight volume having more than doubled.

At present, the number of domestic air routes has reached 173, with total mileage reaching more than 210,000 kilometers and air routes reaching 86 cities. The number of international air routes has reached 20, with total mileage reaching over 190,000 kilometers and air routes reaching 22 cities in 18 countries and regions of the world. During the past 3 years or more, a big increase in air freight volume has been reported, with the total cargo load expected to reach 630 million dun-kilometers this year. It has more than doubled in the past 4 years as compared with the total load of 298 million dun/kilometers in 1978. The total air freight load has increased by nearly 100 million dun/kilometers this year, despite the fact that transport capacity has not been increased. Considerable progress has also been made in aviation for special purposes. [passage omitted]

The current meeting has set forth the tasks and measures for 1983 air transport and special flights, calling on all civil aviation departments in the country to center their efforts on increasing economic efficiency, improve management and administration, tap transport potentials and increase utilization as well as transport rations for flights. [passage omitted]

CSO: 4006/172

TRANSPORTATION

CONVERSION OF 'DAQING' TYPE TANKERS EXAMINED, ANALYSED

Shanghai ZHONGGUO ZAOCHUAN [SHIPBUILDING OF CHINA] in Chinese No 4, 1982 pp 39-45

[Article by Qiu Xichang [6726 6932 2490] of the Shanghai Sea Transport Administration Bureau: "Study of a Plan for Converting the Tanker 'Daqing 19'"]

[Text] Summary

The author investigates the present condition of the vessel and devises a tentative plan, including arrangements for carrying out the major steps of the conversion and an economic analysis of the operation of the ship. He proposes a plan for converting the "Daqing 19" by replacing and enlarging the midsection cargo tanks and hull. Return on investment would be high; the operation of the ship would be economical; the technology is not difficult: therefore he proposes that this conversion plan be tried out.

I. Introduction

Older vessels constitute a high proportion of China's shipping, but the technical problems of converting older vessels have not yet received adequate attention.

The technology of converting older vessels has developed rapidly in foreign countries since the 1950's. The methods of conversion include: replacing the hold section of the hull, lengthening the hull, deepening the hull, enlarging the hull in three directions, grafting on a hull, repairing sea damage, direct refitting of the original ship, adding more equipment, etc.¹⁻⁴ The following conspicuous economic results can be attained by these kinds of conversions:

- (1) Economy of operation can be improved by increasing cargo carrying capacity and decreasing turnaround time and fuel costs.
- (2) The timely fulfillment of new tasks is possible through the structural conversion of older ships, transforming them into new models. This is often faster and cheaper than building new ships.
- (3) The life of ships can be extended: depending upon its condition, a ship which would otherwise be scrapped may be put to use.
- (4) The technique of combining building and repair during conversion means that an old ship does not have to be withdrawn from use and sent to the shipyard for

the replacement of sections until the new hull is completed. New equipment can also be designed and completed before installation on the ship. This greatly improves the efficiency of ship repair and decreases the length of time a ship must remain out of service.

II. Present Condition of the Vessel

From 1965 to 1967 the Hudong Shipyard built six 3,000 ton tankers—"Daqing 18" through "Daqing 23"—for the Shanghai Sea Transport Administration Bureau. For over 10 years they have transported diesel fuel, gasoline, and other finished petroleum products between seaports north of Wenzhou. There are two major problems with these ships at present:

(1) The cargo tank hulls are badly corroded, while the main and auxiliary engines are without serious defects. Although some parts of the superstructure and decks are badly rusted, other parts have been replaced during minor repairs over the years. With normal maintenance and some extensive repairs on the main and auxiliary engines, superstructure and decks, the fore and aft sections and the mechanical and electrical equipment could still be used for another 15 years. Methods of repairing the midsection of the ship are worth our study. In October 1979 "Daqing 21" underwent extensive repairs costing 810,000 yuan at the Huogang Shipyard: afterward the life of the ship was estimated at 5 more years. Because the corrosion of even more components of the cargo tanks will have reached the maximum limits, repairs will have to be even more extensive. Besides replacing 43 percent (27 plates) of the main deck, the major difficulties will be replacing half of the plates in the upper portion of the fluted longitudinal bulkheads and the two fluted transverse bulkheads between the cargo tanks. Thirty percent of the frame and most of the deck framework will also have to be replaced. Even if the machinery and the fore and aft sections of the ship could still be used, it would not be economical to carry out such extensive repairs on a ship whose midsection is already badly corroded. The "Daqing 19," "20," and "21" belonging to the Shanghai Sea Transport Administration Bureau will also soon be in need of such repairs.

(2) The hold capacities are small, the ships are short in length, and there are untapped potentials in terms of cargo capacity.

According to actual operational statistics, these ships transport gasoline on about half of their voyages. They can carry a full load of over 3,200 tons of diesel fuel; however, because the capacity of the cargo tanks is too small, when carrying gasoline they must carry about 400 tons less. Therefore it is necessary to rebuild the holds higher in order to increase the cargo capacity for gasoline. Furthermore, it is also possible to lengthen these ships in order to increase their weight carrying capacity. In this way it is not only possible to greatly increase cargo capacity, but also to improve transverse stability with only a slight decrease in speed.

The appropriate method for resolving these two problems is to "keep the fore and aft, and replace the midsection": to carry out technical conversion and repair on these ships.

III. Plan for Technical Conversion

My conception is to preserve the "Daqing 19's" aft section from the No 5 cargo tank to the stern, and the fore section from the No 1 cargo tank to the bow, and to replace the entire midsection including the cargo tanks. The midsection of the ship together with its loading equipment will be completed on a shipway before launching; the replacement of the midsection of the old ship will be carried out in a dock.

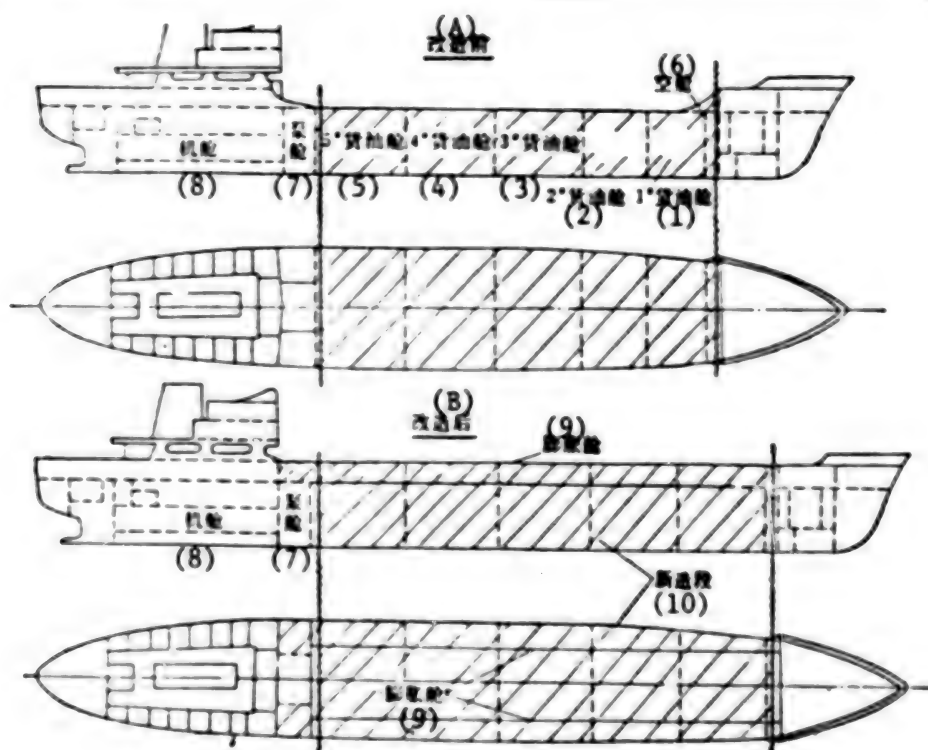


Figure: Conversion Plan for the Tanker "Daqing 19"

Key:

- | | | |
|----------------------|--------------------|--------------------|
| A. Before conversion | 3. No 3 cargo tank | 7. Pump room |
| B. After conversion | 4. No 4 cargo tank | 8. Engine room |
| 1. No 1 cargo tank | 5. No 5 cargo tank | 9. Expansion tanks |
| 2. No 2 cargo tank | 6. Buoyancy tank | 10. New section |

While the midsection is being replaced, the following measures are proposed to enlarge the cargo capacity (see Figure): the original aftercastle will be extended to the bulkhead in front of the pump room; the midship parallel body will be lengthened by 7.8 meters (12 times the distance between ribs); and expansion tanks will be added to the cargo tanks above the main deck (they will be 0.6 of the ship's beam in height, and even with the forecastle and aftercastle). Reasonable transitional structures will connect the expansion tanks with the forecastle and aftercastle. This will provide the hold capacity which is required for a full load of gasoline, and will also decrease the amount of

freeboard. The electric cables between fore and aft will be replaced with steel wire electric cables; these will be joined to the leads from the old electric cables with connection boxes. A cable protection pipe of steel will carry all the cables along the catwalk bridge for fire safety. The lengthening of the hull may result in some loss of maneuverability, so the rear edge of the rudder may be thickened by 0.15 meters in compensation. According to my calculations the anchoring gear, the efficiency of the steering gear, and the diameter of the rudder main piece, will all continue to meet current standards after the conversion of the ship.

Key data on the ship before and after conversion are given in Table 1. To facilitate comparison, the design data for a new 4,000 ton tanker similar to the converted ship is presented together with the principal dimensions and weight capacities. This data is based on designs for the converted model Shengli class 3,000 ton tankers drawn up by the Hudong Shipyard.

			大庆19型原船 (1)	改 造 船 (2)	4000吨新船 (3)	
(4) 主 尺 度	总长(米)	(5)	98	103.8	约103	
	两柱间长(米)	(6)	88	95.8	95	
	型宽(米)	(7)	13.6	13.6	13.9	
	型深(米)	(8)	6.4	6.4	7.42	
	满载吃水(米)	(9)	5.65	5.96	5.99	
	方形系数	(10)	0.725	0.748	0.74	
空船重量(吨)			(11)	1540	1750	1681
总载重量(吨)			(12)	3510	4235	4363
货油舱容积(米³)			(13)	3976	5632	
(14) 载 重 量	汽油(吨)	(15)	2820	3930	4060	
	柴油(吨)	(16)	3210	3930	4060	
主机额定功率(马力) × 转速(转/分)(17)			2000 × 200	2000 × 200	3000 × 200	
额定功率和额定转速时的满载航速(节)(18)			12.4	12.2	13.2	
(19) 航 行 性 能	稳心高度GM ₀ (米)	(20)	1.66	1.17	1.34	
	横摇周期(秒)	(21)	7.1	8.79	9.04	
	船舶尚可使用年限(年)		(22)	5	15	20

Table 1. Key Data for Three Types of Vessels

Key:

- | | |
|---|---|
| 1. Original "Daqing 19" type ship | 12. Weight carrying capacity (tons) |
| 2. Converted ship | 13. Cargo tank volume (m ³) |
| 3. New 4,000 ton ship | 14. Cargo carrying capacity |
| 4. Principal dimensions | 15. Gasoline (tons) |
| 5. Overall length (meters) | 16. Diesel fuel (tons) |
| 6. Length between perpendiculars (meters) | 17. Main engine (rated hp) X (r/min) |
| 7. Beam (meters) | 18. Speed fully laden at rated hp and r/min (knots) |
| 8. Depth (meters) | 19. Behavior when outgoing fully laden |
| 9. Full load draft (meters) | 20. Metacentric height GM (meters) |
| 10. Block coefficient | 21. Rolling period (seconds) |
| 11. Empty weight (tons) | 22. Anticipated useful life of the vessel (years) |

Table 1 shows that by converting this type of ship and replacing the midsection and cargo tanks, the life of the ship can be extended by 10 years until such time as both hull and machinery can be scrapped. This not only makes the fullest use of material resources, but also makes possible a great increase in cargo capacity. Gasoline carrying capacity will increase by 1,100 tons or 39 percent; diesel fuel carrying capacity will increase by 700 tons or 22 percent; speed will decrease by only 0.2 knots. Furthermore, the ship's behavior at sea will improve somewhat: at full load the rolling period will increase from 7.1 seconds to 8.8 seconds.

IV. Plan for Cutting and Rejoining the Hull

The new cargo tanks will be built in advance on a shipway, and the dismembering of the fore, mid, and aft sections of the ship will involve floating her in and out of the dock twice. The fore section of the ship is short and narrow: it cannot float evenly. The fore section weighs 181 tons empty, and floats with a metacentric height of -2.4 meters: there is danger of capsizing to the sides. Furthermore, it will also rotate longitudinally toward the bow, submerging the forecastle deck. Therefore the fore section should be ballasted with water and left in the dock rather than moved. The aft section and the new midsection should be ballasted with water in the holds, so that they float evenly, and moved into alignment for joining. According to my calculations, the plan for dismembering and rejoining the hull which follows involves docking and undocking twice:

- (1) The old hull is docked and cut into three parts; aft section and midsection are floated out of the dock, but the fore section is left in the dock.
- (2) The new midsection and the old aft section are brought into the dock to be joined to the old fore section.

V. Economic Analysis of Operation

The costs of conversion are shown in Table 2.

The analysis of the operating costs of the original "Daqing 19," the converted model, and a new 4,000 ton tanker, are shown in Tables 2 and 3.

In the economic analysis of operations in Table 3, forecasts concerning navigation lanes and the composition of the cargoes transported have been determined by ship dispatchers based on the operation of this type of ship in China in the recent past. Operational data such as cargo capacities, length of time for voyages, etc., as well as the cost estimates, have been calculated based on actual statistics for "Daqing 19," "Shengli 1," and "Shengli 2" in 1978. Freight rates have been calculated based on the current rates for sea transport enterprises directly under the Ministry of Communications. After tax net revenue is calculated by deducting a 3 percent tax.

In calculating the capital costs, data concerning the expected useful lives of both the original ship and the new ship, as well as the cost of extensive repairs, are based on the actual costs for the "Daqing 21": after 15 years of use a series of extensive repairs will cost 540,000 yuan, after

which the ship will be usable for another 5 years. This meets the norm that a finished petroleum products tanker should be usable for at least 20 years. After a converted ship with new cargo tanks has been used for an additional 15 years, the fore section, aft section, and the mechanical and electrical equipment will have been in use for 30 years: as with any regular dry cargo ship, extensive repairs will no longer be feasible and both the hull and the mechanical and electrical equipment can be scrapped together. However, because the superstructure of the converted ships will not be perfectly suited to the technology of the mechanical and electrical equipment, extensive repairs should be made of the mechanical and electrical equipment in the 8th year after conversion.

(1) 项 目	(2) 费用(元)	(3) 备 注
(4) 新船体钢料与人工费	912,600	850吨 × 1.08 × 1300元/吨 (5)
(6) 货油舱段船体的管子	52,000	φ200 290米 × 133元/米, φ130 75米 × 72元/米 (7) φ75 120米 × 37元/米, φ100 60米 × 60元/米
(8) 货油舱段船体的阀门	50,000	
(9) 货油舱段船体的电线	30,000	
(10) 天桥、栏杆、首楼及绞车	20,000	
(11) 新船体油漆	30,000	
(12) 新船体船台费及下水费	20,000	
(13) 新船体放样费	10,000	
(14) 新船体胎架费	40,000	
(15) 船坞费	33,400 × 2	按进出坞两次, 坞期20天计算 (16)
(17) 拆费费	20,000	
(18) 以上小计	1,251,400	
(19) 设计费	50,000	是以上小计费用的4% (20)
(21) 旧船体机电修理费	220,000	根据“大庆21”船1979年扩大修理费估价 (22)
(18) 以上小计	1,521,400	
(23) 税金及工厂利润	167,400	是上栏小计的11% (24)
(25) 总 和	1,655,400	取整数170万元 (26)

Table 2. Estimated Costs of Conversion

Key:

- | | |
|--|---|
| 1. Item | 14. Cost of building stock frames for new hull |
| 2. Costs (yuan) | 15. Dock charges |
| 3. Remarks | 16. Twenty days in dock; two dockings and undockings |
| 4. Cost of labor and steel for new hull | 17. Cost of dismantling |
| 5. (650 tons) X (1.08) X (1,300 yuan/ton) | 18. Subtotal |
| 6. Cargo tank section pipes | 19. Design costs |
| 7. φ 200 (290m) X (133 yuan/m),
φ 130 (75m) X (72 yuan/m),
φ 75 (120m) X (37 yuan/m),
φ 100 (60m) X (60 yuan/m) | 20. 4% of the above subtotal |
| 8. Cargo tank section valves | 21. Repair costs for mechanical and electrical equipment on the old sections |
| 9. Cargo tank section electric wiring | 22. Estimate based on the costs of extensive repairs on the "Daqing 21" in 1979 |
| 10. Catwalk bridge, rails, foremast, and winches | 23. Taxes and plant profits |
| 11. Paint for new hull | 24. 11% of the above subtotal |
| 12. Shipway and launching fees for new hull | 25. Total costs |
| 13. Lofting costs for new hull | 26. Rounded off to 1.7 million yuan |

(1) 项 目				"大庆10号"原油 (2)	(3)敦 道 船	(4)4000吨新船
(5)航次营运平均数据	(6)航次时间	(7)航行 (小时)	(8)	74.152	75.411	68.449
		(9) 装卸 (小时)	(8)	39.666	39.285	36.962
		(10) 其他停泊 (小时)	(8)	50.097	50.097	50.097
		(11) 每航次总时间 (小时)	(8)	154.915	164.793	155.508
		(12) 载货量 (吨)	(13)	3002	3912	3932
		(14) 货运周转量 (千吨海里)	(15)	1250.594	1597.288	1649.075
	(16) 运费收入 (元)	(17)	30060.3	38295.5	39626.3	
(18)年度生产力和收入	(19) 营运天数 (营运率为80%)	(20)	292	292	292	
	(21) 航次数		45.2	42.5	45.1	
	(22) 货运量 (吨)	(13)	135,690	162,010	177,333	
	(14) 货运周转量 (千吨海里)	(15)	56,528.848	67,884.655	74,373.282	
	(23) 纳税后的净收入 I	(元) (17)	1,817,964	1,578,732	1,729,170	
(24)年 度 成 本	(25) 燃料费 (元)	(17)	140,009	135,736	187,044	
	(26) 材料费 (元)	(17)	19,733	19,043	30,287	
	(27) 物料费 (元)	(17)	16,302	16,302	16,302	
	(28) 港口费 (元)	(17)	61,091	62,692	67,360	
	(29) 淡水费 (元)	(17)	10,170	10,170	10,170	
	(30) 工资及附加费 (元)	(17)	58,250	58,250	58,250	
	(31) 维修费 (元)	(17)	131,102	131,102	131,102	
	(32) 其他船舶费用 (元)	(17)	1,490	1,490	1,490	
	(33) 管理费用 (元)	(17)	6,436	6,436	6,436	
	(34) 年度营运成本费总和 Y (元)	(17)	444,583	441,221	508,441	
	(36) (37) 船舶尚可使用年限 N (年)	(38)	5	15	20	
	(39) 船舶资金现值 C (元)	(17)	1,201,200	2,901,200	5,380,000	
	(40) (41) 时 间	(42)现 在	(43)8 年后	(44)15 年后		
	(45)修壳费 (元)(17)	540,000	540,000	540,000		
	(46)现值因素 PW	1	0.675	0.478		
(47)修壳费的现值 S (元)(17)	540,000	364,500	258,120			
(48) (49)现值 (元)(17)	173,600	116,048	215,200			
(50)现值因素 PW	0.782	0.478	0.374			
(51)现值的现值 Z (元)(17)	134,191	55,471	80,485			
(52) 总投资成本 $P = C + S + Z$ (元)(17)	1,607,009	3,210,229	5,557,635			
(53) 按使用年限的投资回收因素 CR	0.2312	0.0986	0.0905			
(54) 年度投资成本费 J (元)(17)	371,540	310,108	447,390			
(55) 年度总成本费 $T = Y + J$ (元) (17)	816,123	751,329	955,831			
(56) 单位成本 RFR (元/千吨海里) (57)	14.44	11.07	12.85			
(58)单位投资的利润	(59) 年度利润 $L = I - T$ (元)(17)	501,841	827,403	773,339		
	(60) 按使用年限的系列现值因素 SPW	4.335	10.352	12.420		
	(61) 总利润 = 净现值 $NPV = L \times SPW$ (元)(17)	2,170,462	8,565,276	9,604,870		
	(62) 净现值指数 $NPVI = \frac{NPV(1)}{P}$	1.35	2.67	1.73		
(63)投资回收年限	(64) 年度收益 $A' = I - Y$ (元)(17)	873,381	1,137,511	1,220,729		
	(65) 投资回收因素 $CR' = \frac{A'}{P}$	0.543	0.354	0.220		
	(66) 投资回收年限 N' (年)(38)	2.0	3.1	5.3		
	(67) 投资回收次数 $X = \frac{N}{N'}$	2.5	4.8	3.8		

Table 3. Economic Analysis of Operations

Table 3 Key:

1. Item
2. Original "Daqing 19"
3. Converted ship
4. New 4,000 ton ship
5. Average voyage operational data
6. Voyage time periods
7. Underway
8. (Hours)
9. Loading and unloading
10. Other time in berth
11. Total voyage time
12. Cargo capacity
13. (Tons)
14. Rotation volume of freight transport
15. (1,000) X (tons) X (nautical miles)
16. Freight revenue
17. (Yuan)
18. Annual productive force and revenue
19. Days in operation
20. (Operation rate is 80%)
21. Number of voyages
22. Freight tonnage
23. Net revenue after taxes: \underline{I}
24. Annual costs
25. Operating costs
26. Cost of bunker fuel
27. Cost of lubricants
28. Cost of materials
29. Harbor fees
30. Fresh water costs
31. Wages and additional charges
32. Maintenance costs
33. Other ship expenses
34. Administrative expenses
35. Total annual operating costs: \underline{Y}
36. Capital costs
37. Expected life of the ship
38. (Years)
39. Present value of the ship: \underline{C}
40. Cost of extensive repairs
41. Scheduled time
42. Present
43. After 8 years
44. After 15 years
45. Repair costs
46. Present value factor: \underline{PW}
47. Repair costs discounted to present value: \underline{S}
48. Salvage value of ship
49. Salvage value
50. Present value factor: \underline{PW}
51. Salvage value discounted to present value: \underline{Z}
52. Total capital costs: $\underline{P = C + S - Z}$
53. Investment payback factor over the useful life: \underline{CR}
54. Annual capital costs: \underline{J}
55. Total annual costs: $\underline{T = Y + J}$
56. Unit cost: \underline{RFR}
57. (yuan/(1,000)(tons)(nmi))
58. Profit per unit of investment
59. Annual profit: $\underline{L = I - T}$
60. Present value factor of the annuity: \underline{SPW}
61. Total profits = net present value: $\underline{NPV = L \times SPW}$
62. Net present value index:

$$\underline{NPVI} = \frac{NPV^{[1]}}{P}$$
63. Investment payback period
64. Annual receipts: $\underline{A' = I - Y}$
65. Investment payback factor:

$$\underline{CR'} = \frac{A'}{P}$$
66. Investment payback period: $\underline{N'}$
67. Investment paybacks:

$$\underline{X} = \frac{N}{N'}$$

According to convention the salvage value of a ship is estimated at 4 percent of cost. The original cost of the "Daqing 19" was 4.29 million yuan. The present value of this asset is now:

$$4,290,000 \times \left(95\% \times \frac{5}{20} + 4\% \right) = 1,201,200 \text{ yuan}$$

The present value of the converted ship would be equal to this amount plus the cost of conversion—1.7 million yuan. The present value of a new 4,000 ton tanker is its estimated building cost—5.38 million yuan.

The following formulas were used to determine various factors used in the above calculations:⁵

Present value factor: $PW = \frac{1}{(1+i)^n}$

Investment payback factor: $CR = \frac{i(1+i)^n}{(1+i)^n - 1}$

Present value of a stream of payments factor: $SPW = \frac{(1+i)^n - 1}{i(1+i)^n}$

In these formulas: i = annual discount rate: determined as equal to the 5.04 percent interest rate on loans by the People's Bank of China

N = number of years

The economic analysis of operations presented in Table 3 shows that the unit cost of the converted ship is 23.3 percent lower than the unit cost of the original ship, and 13.9 percent lower than the unit cost of the new 4,000 ton ships. The net present value index, or rate of profit on investment, is twice that of the original ship, and 50 percent greater than that of the new ships. The number of times the investment will be recovered in the life of the ship is twice that of the original ship, and 25 percent greater than that of the new ships. These three important economic indicators show that the technical conversion plan I am suggesting is clearly superior to both the original "Daqing 19" and the new 4,000 ton tanker.

VI. Conclusion

The conversion of older ships is a technology which is transitional between shipbuilding and ship repair. It is already highly developed in foreign countries, but still awaits energetic development in China. This article presents a conversion plan for an older ship which promises a good return and is not too difficult. I hope that it will draw attention to the question of converting older ships, so that we can work hard together to develop China's ship conversion technology.

FOOTNOTES

1. "Sentai Setsugo Hoho" [Techniques for Joining Hulls], TOKKYO KOHO [PATENT JOURNAL], Showa 47, No 33873, 1972.
2. "Dokku ni Okeru Sentai Setsugo Hoho" [Technique for Joining Hulls in Docks], TOKKYO KOHO, Showa 51, No 21240, 1976.
3. "Dokku in Okeru Sentai no Setsugo Hoho to sono Sochi" [Technique and Equipment for Joining Hulls in Docks], KOKAI TOKKYO KOHO [PUBLIC PATENT JOURNAL], Showa 54, No 49798, 1979.
4. Harry Benford, "Measures of Merit for Ship Design," MARINE TECHNOLOGY, Oct 1970.
5. Harry Benford, "Principles of Engineering Economy in Ship Design," TRANSACTION OF SNAME, 71, 1963.

12187

CSO: 4006/121

TRANSPORTATION

SYSTEM OF ECONOMIC RESPONSIBILITY IN ROAD MAINTENANCE DETAILED

Beijing GONGLU [HIGHWAYS] in Chinese No 10, 1982 pp 16-19

[Article by Fujian Provincial Highway Bureau: "System of Economic Responsibility Experimented in Road Maintenance As a Mean of Improving Economic Results"]

[Text] The system of economic responsibility in road maintenance in Fujian Province began with the system of "retention of savings from budgeted expenses and deduction of other funds to offset above-budget expenses" in minor repairs and maintenance of roads. After certain initial success, the method "enterprise funding and sharing of savings in road maintenance" was adopted in 1979. During the 3 years of experiment, road conditions have continued to improve and the average cost of road maintenance was lowered by 3.95 percent. Fair good economic results were achieved.

In accordance with the spirit of the "meeting for the study and discussion of readjustment and restructuring in highway construction" and based on the experiences in the experiments in the system of economic responsibility in various localities, our bureau publicized the "Opinions on Certain Problems in Adopting the System of Economic Responsibility in Road Maintenance" in 1981 as a means of providing certain principled regulations for the experimental units. The purpose of this action was to implement the principle "to each according to his work," and to overcome the practices of "eating out of the same pot" and egalitarianism more effectively. By the end of 1981, 16 highway sections and construction brigades had carried out experiments in the system of economic responsibility within their road maintenance units. In 1982, the "Symposium on the System of Economic Responsibility in Road Maintenance" was convened. After the exchange and summing up of experiences in the methods used, the system of responsibility for the budgeted expenses and the sharing of savings was set up and gradually enforced. Let us now describe our experiences in the adoption of the system of economic responsibility in road maintenance as follows:

The Basic Form and Method

I. The Basis Form of the System of Economic Responsibility in Road Maintenance

The basic duty of highway maintenance is to provide good road conditions for vehicle transport. Although this is the duty of a service department, highway maintenance is run in the form of an enterprise. The purpose of the system of

economic responsibility in road maintenance in our province is to improve the quality of our highways and to ensure the fruitful use of funds under the overall road maintenance plan of the province. This system consists of an upper and a lower part. The upper part concerns the economic responsibility of the provincial highway bureau for its affiliated bureaus (sections, construction brigades, plants and institutes), mainly dealing with the economic relationship between the upper and the lower levels. In other words, it deals with the question of the definition of the spheres of rights, responsibilities and interests. The system of enterprise funds and sharing of savings among the road maintenance units in our province since 1979 belongs to the upper part. The lower part concerns the economic responsibility within the basic-level units, mainly dealing with the relations of distribution within the direct production units. It will help solve the problem of the lack of distinction between good and poor work performances among the workers and staff members, and more effectively implement the principle "to each according to his work."

II. Specific Regulations for the Appropriation of Enterprise Funds and the Sharing of Savings

1. The criteria for economic and technical evaluation and regulations for the appropriation of enterprise funds from the savings in construction costs. The four main criteria for evaluation are as follows:

(1) Good road percentage: An overall 55 percent of all roads and 65 percent of all trunk roads in the province should be rated as good roads. (2) Construction quality: All construction work should be up to standard and 60 percent of it should be of excellent quality. (3) Amount of construction work: More than 98 percent of the road maintenance plan, for which funds have been allocated, should be fulfilled, and 95 percent of the work should be eligible for inclusion in the final statement of completed projects. (4) Savings: There should be 3 percent savings from the road maintenance costs and 5 percent savings from the administrative expenses.

Those units which have fully met these economic and technical criteria can appropriate their enterprise funds in amounts equivalent to 5 percent of their payrolls. Those which have met the criteria of good roads and savings instead of all the four criteria can appropriate enterprise funds for each criterion in amounts of 1.25 percent of their payrolls. Those which have not met the criteria of good roads and savings cannot draw any enterprise funds.

2. With the assurance of good construction quality as a prerequisite, the method of responsibility for construction according to the approved budgeted amount with the understanding that savings in the construction costs will be shared, is adopted for major and medium repairs, alterations, repairs for flood damage, and other special jobs.

3. Provided the required percentage of good roads and safety are guaranteed, the method of responsibility for keeping the expenditures for minor repairs and maintenance, the "ferry expenditures" [dukou zhichu 3258 0656 2388 0427] and administrative expenditures within the budget and the sharing of savings is used.

4. The expenses incurred in planting trees along the highways, the purchase of machinery equipment, scientific research and technical innovation and the training of workers and staff members are all controlled by the budget. There will be no sharing of savings even though these expenses are reduced below the budgeted amounts. However, overspending will be offset by the savings in alteration projects, minor repairs and maintenance.

5. After deducting for the enterprise funds appropriated according to regulations (as mentioned in Item 1), the remainder of the savings from various sources (as mentioned in Items 2, 3 and 4) will be shared among the provincial highway bureau and its affiliated units in the following proportions: 40 percent for the provincial highway bureau, 18 percent for the prefectural and municipal highway bureaus, and 42 percent for the highway sections, construction brigades and machinery plants.

III. System of Economic Responsibility for Minor Repairs and Maintenance

Minor repairs and maintenance are the most basic and common forms of road maintenance, as well as a productive activity in keeping the highways in good condition and ensuring traffic safety. The most important criteria for evaluation are the road condition and the construction costs, and for the best results, we have to steadily improve the road conditions and to economize on the construction costs. Therefore, we must first increase the percentage of good roads, or improve the road conditions, since the practice of economy will be meaningless if the road condition is allowed to deteriorate. Good road maintenance depends on the availability of personnel, materials and high technology. The way to practice economy is to raise efficiency as a means of economizing on the payroll, to stress technology as a means of economizing on materials, and to strengthen accounting as a means of reducing expenditures. Since the basic facilities, management level and conditions of production are different in various units, the system of economic responsibility for minor repairs should also take different forms in the light of realities instead of mechanically following a uniform rule. The main requirement is to stress economic results. Generally, we adopt the system of reward and penalty for several "fixes" and "guarantees". At present, most units are adopting the "four fixes, two guarantees and one responsibility" system which works in practice as follows:

(1) Four Fixes, Two Guarantees and One Responsibility

1. Four fixes, meaning fixed mileage of maintenance, fixed personnel, fixed materials and fixed investment.

2. Two guarantees, meaning guarantee of a quarterly average of good-road percentage and of comprehensive maintenance quality value which should not be below that of the same period last year; and guarantee against major occupational accidents and traffic accidents resulting from poor road conditions.

3. One responsibility, meaning responsibility for minor repair expenses (common rewards to be included in construction costs). Only the practice of economy, but not excessive spending is permitted.

(2) Types of Rewards

1. Reward for the fulfillment of tasks: for a good-road percentage and a comprehensive maintenance quality value which are up to the same level as in the same period last year.
2. Reward for the improvement of road conditions: for meeting the "four fixes, two guarantees and one responsibility" requirements, including the reduction in substandard roads and the increase in comprehensive maintenance quality value.
3. Reward for above-quota production: also for meeting the "four fixes, two guarantees and one responsibility" requirements, including the strengthening of the surface layer which is liable to wear and tear through self-reliance and increasing the number of pipe culverts, ditches with stone banks and other similar construction jobs.
4. Sharing savings for year-end bonus: After the regular payments of bonuses on a quarterly basis, and provided there are still savings from the operational expenses at the year-end, part of these savings will be used as year-end bonus for those units whose good-road percentage has met the stipulated requirements.

(3) Standards of Rewards

1. Reward for the fulfillment of tasks: For those who have met the "four fixes, two guarantees and one responsibility" requirements, an average monthly bonus will be awarded to each person.
2. Reward for improvement road conditions: For reducing the percentage of substandard roads or raising the comprehensive maintenance quality value in addition to meeting the "four fixes, two guarantees and one responsibility" requirements; for every kilometer in the reduction of substandard roads; and for raising the comprehensive maintenance quality value by 0.15, an average monthly bonus of 1.5 yuan will be given to each person.
3. Reward for above-quota production: For those who, besides meeting the "four fixes, two guarantees and one responsibility" requirements, have also strengthened the surface layer which is liable to wear and tear (for a continuous length of more than 200 meters); increased the length of ditches with stone banks or block pavements (for a continuous length of more than 50 meters); or increased the number of small pipe culverts, which have been in regular use for more than half a year, 20 percent of the construction costs will be appropriated as bonuses.
4. Sharing savings for year-end bonus: Provided the requirements of "four fixes, two guarantees and one responsibility" are met, a general year-end accounting will be conducted on the basis of responsibility for minor repairs within the budgeted amounts of expenses and the sharing of savings, with the road-maintenance squads as individual units. According to this arrangement, 30 percent of the amount saved as shown in the final financial accounts of the road-maintenance squads at the year-end will be shared as bonuses for the squad members.

(4) Three Main Forms of the System of Economic Responsibility for Minor Repairs and Maintenance, or the System of Economic Responsibility by the Road-Maintenance Squads

1. Setting up production targets for squads and work quota for individuals with a system of work points. Under this arrangement, rewards will be given quarterly according to the work points, in addition to a general accounting for the year-end bonuses. This arrangement is suitable for the characteristics of the collective work of road-maintenance squads and is convenient for control and accounting.
2. The system of economic responsibility based on the job responsibility system. Cost accounting will be strictly enforced among the road-maintenance squads according to the relevant criteria of evaluation.
3. The system of economic responsibility for road sections which in turn hold individual workers responsible for their work. Under this system, there are both rewards and penalties according to the road conditions and the amounts of expenditures. First, a "fix-guarantee-reward" contract has to be signed between the road-maintenance squad and the highway section, and then the squad will assign different work groups or individuals for the maintenance of different highway sections. Each month, the road conditions and the costs are evaluated as the basis for rewards or penalties.

IV. System of Economic Responsibility in Road Maintenance

In major and medium repairs, alterations and repair of flood damage, all connected with road maintenance, excellent quality and low consumption are the goal, generally to be attained with the method of keeping the expenditures within the approved budget and sharing the savings. Within the construction brigades, the system of comprehensive rewards and the rewards for practicing economy is adopted among the regular workers. (At present, road maintenance in our province is mostly undertaken by civilian workers receiving piecework wages. If different types of work are carried out on a contract basis, the majority of regular workers are engaged in administrative work and only a small number of them are engaged in direct labor.) Therefore, many construction brigades are using comprehensive rewards as the basis with the addition of rewards for practicing economy. It means that if any construction task is completed "on schedule with safety and satisfaction in quality and quantity guaranteed," and the actual construction costs has been reduced through the practice of economy, then in addition to the comprehensive reward, another reward in proportion to the amount of savings will also be given. For example, if there is a saving of 3-5 percent, each person will receive an average monthly bonus of 2 yuan; if there is a 5-8 percent saving, the bonus will be 4 yuan; and if there is an 8-10 percent saving, the bonus will be 6 yuan. The construction brigade will draw its bonus funds in accordance with this scale for the required number of persons. If the spending is excessive to the budget, no bonus will be given.

Economic Results Achieved

The duration of our experiments in the system of economic responsibility is still brief and our experiences are not enough. We are still in the exploratory stage, but good economic results have already been achieved. These achievements are mainly shown as follows:

First, the reduction of road-maintenance costs. Before the adoption of the system of economic responsibility, the system of responsibility for minor repairs within the budgeted expenses yielded some surplus every year, but the spendings on special road maintenance projects exceeded the budgeted amounts slightly. For example, the excess was 1.3 percent in 1977 and 1.64 percent in 1978. After the adoption of the system of economic responsibility whereby expenses on special road maintenance projects are to be kept within the budget and savings in these expenses are to be shared, the unit concerned has to be responsible for cost control with the result that, in addition to the gradual improvement in road conditions and construction quality, construction costs have also been lowered. In 1980, the average comprehensive good-road proportion was 57.8 percent, or 2.8 percent above the planned proportion, including a good-road proportion of 65.2 percent for the trunk roads, being 0.2 percent above the planned proportion. In 1981, the annual average comprehensive good-road proportion was 62.4 percent, an increase of 4.6 percent over 1980, including a good-road proportion of 69.9 percent, being 4.1 percent above 1980 for the trunk roads. The quality of special road maintenance work has also been improved. All engineering quality was up to the standard, and in 1981, the proportion of excellent quality work reached 64 percent, or 4 percent above the planned proportion. The average maintenance costs in 3 years dropped by 3.94 percent. In 1979, it dropped by 3.93 percent; in 1980, 3.68 percent; and in 1981, 4.2 percent.

Second, increased proportion of completed projects in special road maintenance. Before the adoption of the system of economic responsibility in road maintenance, every unit competed for projects at the time of planning and for funds at the time of budgeting. When the work began, there were complaints of difficulties resulting in delays and excessive construction periods. The ratio of half-finished projects was high, and many of them had to be carried over to another year. After the adoption of the system of economic responsibility, people at all levels combined their efforts to complete the projects in the same years, and the proportion of completed projects was 95.68 percent in 3 years. The 1979 plan provided 1,732 projects, and by the end of the same year, 1,613, or 93.7 percent of the total planned number, were completed. The 1980 plan provided for 1,785 projects, and by the end of the same year, 1,727, or 96.75 percent of the total planned number was completed. The 1981 plan provided for 1,829 projects, and by the end of the same year, 1,776, or 97.1 percent of the total planned number were completed.

Third, completion of annual road-maintenance plan ensured. After the adoption of the economic responsibility system, strict evaluation of the economic and technical indices have ensured the completion of annual road-maintenance plans. The original evaluation indices called for 98 percent fulfillment of the annual plan, but actually, the plans were overfilled every year. For example, 110.8

percent of the plan was fulfilled in 1979; 100.2 percent in 1980; and 98.5 percent in 1981. (Note: Prior to 1980, both receipts and payments concerning road maintenance were handled by the provincial highway bureau, and the direct link between receipts and payments made it possible to make timely adjustments in the plans for road-maintenance expenditures and for the increase in construction investment. That was why the plans for road maintenance according to budgeted outlay could be overfulfilled. Since 1981, however, these receipts and payments have been handled exclusively by the provincial transportation department, and we have only been able to complete, but not overfulfill the plans handed down from the higher authorities.)

Fourth, improvement of living conditions for the workers and staff members. In addition to the obvious economic results, adoption of the system of economic responsibility has also increased the income of the workers and staff members, thus improving their livelihood. In 1979, for example, the total payroll was 6.7 million yuan, and the amount of bonus fund was 0.23 million yuan, or 3.41 percent of the total payroll. In 1980, the total payroll was 8.28 million yuan, and the amount of bonus fund was 0.48 million yuan, or 5.85 percent of the total payroll. In 1981, the total payroll was 8.76 million yuan, and the amount of bonus fund was 0.89 million yuan, or 10.2 percent of the total payroll.

At the same time, the system of budget responsibility practiced by various units in the past 3 years has helped save 6.61 million yuan in construction costs. Out of this amount, 1.05 million yuan was appropriated as enterprise funds and 1.81 million yuan was retained as their shares. Thus some basic-level units gained greater scopes of economic activities, and the economy was enlivened. With these funds, the units have bought some urgently needed machinery equipment, repaired some road-maintenance squads' dormitories and bathhouses, and provided more welfare facilities, such as TV and radio sets and furniture. This system, which has increased production and improved the living conditions, is much appreciated by the workers and staff members.

Lessons and Problems

In adopting the system of economic responsibility in road maintenance, we have not only gained economic benefits but also accumulated our experiences and learned our lessons. We feel that in practicing this system, particular attention should be paid to the following problems.

1. More active leadership should be provided in order that any new problem will be promptly solved. In each road maintenance unit in our province, a leader is in concurrent charge of the system of economic responsibility; and some branch bureaus have even set up their economic responsibility offices. Since the duration of our experiment in this system has been rather brief and we are not yet well experienced, continued study is needed to bring it gradually to perfection. All problems and contradictions encountered in the course of experiment should be promptly solved. We should also fully assess all the problems that have already cropped up or may crop up in the future. The enthusiasm of the road-maintenance workers should be aroused, but the tendency of economizing at the expense of quality must be guarded against. That is why more active leadership, supervision and inspection are needed to guide the work in its healthy development.

2. The adoption of the system of economic responsibility should be closely coordinated with the reorganization of management. In practicing the system of economic responsibility among the road maintenance squads, "quota" is the foundation; "responsibility" is the core; and "correctness" is the key link. How to correctly match quota with responsibility is a question which impinges on many functional departments. Therefore, we must stress the need for the finance and engineering departments to take the lead, and for all other departments to cooperate in the systems of strict evaluation, recording, statistics and acceptance checks. Since the responsibility system in the road maintenance units takes the form of quotas and guarantees in several respects along with rewards and penalties, problems of incoherence and incoordination are unavoidable at the initial stage of experiment. Therefore, we must stress the need for "correctness" as the key link in the adoption of a responsibility system among the road maintenance units. If the quota is set so high that fulfillment would be impossible despite all efforts, the enthusiasm of workers and staff members cannot be aroused. Conversely, if the quota is set so low that it can be fulfilled without any effort, then there will be no improvement of economic results to speak of.

3. The quota system should be constantly improved. The problem of unrealistic quotas has been brought to light in the practice of the economic responsibility system. In enforcing this system, therefore, the production quotas should be adjusted so that they will be rationally advanced and correctly balanced. Quotas serve as a yardstick of labor efficiency. For this reason, we urged the recorders of production shifts and groups to carry with them tape measures and notebooks so that they could conduct their acceptance checks on the same day and record the workpoints in accordance with the assigned quotas.

4. We deeply believe that the system of economic responsibility is an effective means to develop socialist economic democracy and to help the workers handle financial matters. All units have reported great changes in the road maintenance squads as a result of the adoption of this system. First, the workers' sense of being masters of their units has been strengthened; and their efficiency has been extensively raised along with their full attendance. They are now really "thinking of road conditions and exerting their efforts on the roads at all times." Since the adoption of the economic responsibility system, many workers have urged the squad leaders to start work earlier in order to be sure of completing the work quota for the day. Second, the rate of workers' attendance and the quality of road maintenance have been greatly raised. Third, construction costs have continued to drop. The combination of responsibility, rights and interests has given the workers a sense of being the masters of their units, and everyone of them is very meticulous in managing the financial matters. Formerly nobody cared about the waste; now they consider any waste as money out of their own pockets. Fourth, all shifts and groups are now more solidly united in promoting production, and their common responsibility has even reduced family feuds. Fifth, there is now democratic management among the shifts and groups. Division of work among the workers of the squad is clearly defined, and the squad leader's "one-man show" is no longer seen. Sixth, the workers and staff members are more keen in learning technology and the way to do a better job. Many of them have said: "Since we cannot eat out of the same pot, we cannot be without real skill."

5. The system should be backed up by strong ideological and political work. A responsibility system can be no substitute for discipline which must be strictly enforced. Mere bonus or wage deduction cannot solve the problem of discipline for some people. Therefore, while practicing the system of economic responsibility, political work should also be carried out. We must first stress the sense of responsibility and then the system of responsibility. A precondition for the system of economic responsibility in road maintenance is the sense of responsibility of the working class for socialist construction or the sense of being masters among the workers in road maintenance. Without this precondition, all forms of economic responsibility will be useless.

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TRANSPORTATION

HIGHWAY CONSTRUCTION SEEN AS REQUISITE FOR TWO CIVILIZATIONS

Beijing GONGLU [HIGHWAYS] in Chinese No 10, 1982 pp 1-5

[Article by the Party Committee and the People's Government of Xiangyuan County, Shanxi Province: "Pay Attention to the Vanguard in Building the Two Civilizations"]

[Excerpts] Our Xiangyuan County consists of 20 communes and 325 production brigades with a total population of 210,000 and nearly 600,000 mu of farmland. Since the Third Plenary Session of the 11th Party Central Committee and thanks to the correct leadership of the provincial and prefectural party committees, and the assistance of the higher-level transport and highway departments, we have conscientiously carried out the important instructions given by Comrade Hu Yaobang on the development of communications and transportation during his inspection trip to Jindongnan last year. Based on the realities in the county, we have also proceeded with our highway construction by adapting the measures to local conditions and attempting only the possible. After repairing and opening to traffic four highways with a total length of 59 kilometers, all under the country and commune administration, last year, we have also opened up 12 highways (sections) with a total length of 120 kilometers. Apart from the section where a large bridge culvert is still under construction, all these 12 highways (sections) involving more than 2 million cubic meters of stone- and earthwork and more than 1.2 million labor-days, have been completed. Thus in the past 2 years, the total length of highways open to traffic has been increased by 336 kilometers, including 179 kilometers for 16 highways (sections) repaired and built according to the unified plan of the county, and 157 kilometers for 19 highways repaired and built according to the communes' own plans. The total increase in highway mileage is 1.27 times the sum total of highways repaired and built in all previous years (264 kilometers). The development of highway construction has greatly changed the backwardness of communications and transportation in our county. At present, six major townships and 20 communes are accessible by passenger buses from the county cities; more than 280 production brigades are open to vehicle traffic; and the conditions for transporting coal out of 5 county-run and 22 commune-run coal mines have been greatly improved. At the same time, an exit has been provided at the northeastern part of the county to Licheng County and the Hanchang Railway. All these construction projects have played an important role in enlivening the urban and rural economy in our county and in building the "two civilizations." Here is a brief description of our methods and experiences in highway construction.

Analysis of the Situation and Unity in Thinking and Understanding

Communications in Xiangyuan County has always been backward. Before the liberation, it was traversed by only one highway--the "Baijin" Highway from Taiyuan to Jiaozuo--and only some 30 kilometers were open to traffic. Since the founding of the People's Republic, thanks to the solicitude and support of the party and the government, we have, through self-reliance and mass efforts repaired and built some highways, and communications and transportation have undergone great development. Because of the disruption from "leftist" errors, however, and the idea of "waiting, relying and requesting", highway construction has been virtually at a standstill since 1962, and particularly during the 10 years of turmoil. From 1966 to 1978, only three highways totaling 38 kilometers were repaired throughout the county. The annual average length of highways repaired and built was less than 3 kilometers.

In the middle of August last year, Comrade Hu Yaobang came to inspect Jindongnan Prefecture. In view of the transportation problem in the mountainous areas, he clearly point out: "The purpose of improving transportation is to develop the economy," and "we must carefully handle this problem" To study and implement Comrade Hu Yaobang's instruction, the county party committee held an enlarged standing committee meeting attended by various commune party committee secretaries and cadres at or above the rank of county department and bureau directors. The situation of communications and transportation in the county was carefully studied, and the conclusion reached was as follows: Our county is full of mountain ranges and is criss-crossed by rivers, particularly the four tributaries of Nanzhang, Beizhang, Xizhang and Shishuihe which divide the county into five portions. There are in the county 20 communes and 325 production brigades. Except for the communes and production brigades along the Yuci-Huangnian, Taiyuan-Dakou, Xiadian-Xiying trunk highways, all communes and production brigades have problems with transportation and travel. In the first half of 1980, 9 communes were still inaccessible by passenger buses; more than 130 production brigades were inaccessible by motor cars; and people in 5 communes could reach the county cities only by making detours. More than one-half of the communes were not linked together by roads. Although a small number of roads were open to vehicle traffic, the vehicles, in the majority of cases, had to make detours or to double back frequently. The Changlong Commune, for example, is only 12 kilometers away from the county city. However, since they are separated by Zhanghe and there is no direct road between them, people visiting the country city had to go around the Tai-Da road and travel a distance of 24 kilometers. Thus the distance was doubled because of the absence of a direct highway. Inconvenient transportation has given rise to many problems. First, motor cars, tractors and the means of transport cannot be fully utilized. In 1980, the number of heavy-duty trucks grew to more than 260 and that of large, small and medium-size tractors was nearly 700. They can combine to form a large transport fleet. However, because of the lack of roads, many communes, production brigades and units could not make use of their vehicles. Except being used in plowing and raking in spring and autumn, some 400 tractors were left idle most of the time. Some of them were used for transportation out of sheer necessity. However, the gains could not compensate the losses in view of the frequent accidents sometimes involving the destruction of the tractors and loss of lives. Second, the abundance of natural resources could not be exploited. Our county's

products, especially coal and other mineral products, and various kinds of native and special products, are quite plentiful. Because of inadequate transport facilities, again, these products could not be transported out in time. This directly affects the income of the collectives and commune members. In the case of coal, for example, the county has a reserve of 1.8 billion tons and an annual output of 700,000-800,000 tons. Yet more than 200,000 tons could not be transported out each year, and losses totaling some 5 million yuan have been incurred due to the deterioration of quality from long storage. In accordance with state plans, two county-run and eight commune- and production brigade-run coal mines were expanded or transformed last year, and it is anticipated that coal output will be more than 1 million tons this year, and be as much as 2.6-3 million tons in 1985. At least 2 million tons have to be transported away, but this strong point will not be brought into full play for lack of transport facilities. This will be a case of "people begging for rice with a golden bowl." Third, the exchange of materials between cities and the countryside has been handicapped. Let us take chemical fertilizers for example. Each year, the county needs approximately 20,000 tons of them. Because of the lack of good roads, however, a large portion of this amount could not be brought to the communes and production brigades in time. Even though some of them were transported to their destinations in time, the peasants could not afford to use them because of the high transportation expenses. That was why each year, only some 10,000 tons, or half of the required amount, could be applied. Corncob, for example again, is an important raw material for producing furfural. Normally, more than 6 million jin of them should be procured in the county each year. Such procurement was impossible again because of transportation difficulties. As a result, the peasants could only use them as firewood, while the furfural plants run by the county had to worry about the source of raw materials. Fourth, the immediate interests of the masses are affected. According to the statistics of 1979, some 17,000 commune members households were short of coal for fuel in more than 100 production brigades. In some remote mountainous areas, there were only trails to be used by people with their shoulder packs, and it was quite difficult for students to attend schools or for patients to receive emergency treatment. The Qiangji Commune is located in a narrow valley deep in a mountain in the northeastern part of our county. The entire commune is divided by Beizhanghe into two halves, and people living on both sides of the river could only look at one another and had difficulty in exchanging visits. Out of dire necessity, some people had to use the cableway of slightly more than 1 meter wide to cross the river, and somebody fell into the river and was drown almost every year. The people in these mountainous areas had a real tough time because of transportation difficulties.

Self-Reliance or Reliance on the Masses

Since repairing highways is a good deed welcomed by the people, it can certainly be accomplished provided there are determined efforts on the part of the country party committee, a good plan, and the aroused enthusiasm of the broad masses. On the contrary, it would certainly result in failure if we simply wait for some favorable opportunity or rely on the state's financial allocation. Highway construction has been very slow for many years mainly because we made

the mistakes of "waiting, relying and requesting." In repairing highways, therefore, we must have the spirit of self-reliance and hard work. We have adopted [three] different methods under this spirit:

First, to be undertaken mainly by the communes and production brigades themselves. New highways should be built by the masses organized by the communes and production brigades which will receive the benefits. Generally, the task of road construction is divided by the county into several sections to be assigned to different communes, which, in turn, will assign the stone- and earthwork to the production brigades, which, in turn again, will organize the labor force for the construction to be carried out. The county will generally provide technical guidance, undertake the construction of large bridge culverts, and give the necessary financial subsidies to the communes and production brigades according to the volume of work assigned and their financial conditions.

Second, using indigenous methods to save expenditures. The work on 12 highways, from the prospecting and design to construction has been carried out in accordance with the principle of diligence and frugality, so that more work could be done at less expense. The necessary tools for road construction, such as pickaxes, hammers, shovels, baskets, push-carts and so forth, were mostly supplied by the communes and production brigades themselves, while the lime for making mortar, the dynamite for blasting and so forth were produced by the communes and production brigades which also took care of the supply of the machinery required for leveling the ground, rolling the roads and transporting materials. At the same time, we paid attention to the use of local materials and indigenous methods in constructing 12 highways (sections), 19 bridges, 327 culverts, and five sections of inundated roads. All the stones and cement used were produced in the county. By this means, a large sum of money was saved. According to our rough estimate, if these 12 highways were built with state investment, at least 6 million yuan would be required. However, because of our self-reliance, the county and the communes only spent some 2 million yuan on the entire project.

Third, fund-raising from many different sources. Last year, we raised some 500,000 yuan ourselves for building four highways. In building 12 highways this year, the required funds were also raised by ourselves from different sources. The county appropriated more than 600,000 yuan out of their standby financial resources; the coal mines, which would be benefited by the construction of these roads, contributed nearly 450,000 yuan after trying every possible way to curtail their expenses; and the communes and production brigades, which would be similarly benefited, contributed more than 1 million yuan. The Chiyan Production Brigade of Nanhan Commune was short of funds for buying dynamites in building the section of highway between Nanhan and Sima. Since the shortage of funds would slow down the construction, party branch secretary Wang Yuming [3769 3768 249.] sold two of his own pigs and used 150 yuan out of the sales proceeds to buy nitramine for making dynamite. The normal progress of the construction was thus ensured.

TRANSPORTATION

HIGHWAY CONSTRUCTION IN SHANXI DESCRIBED

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[Article by the People's Government in Jincheng County, Shanxi Province:
"Some Methods Used in and Experiences Gained from Highway Construction in
Our County"]

[Excerpts] Since the Third Plenary Session of the 11th Party Central Committee, the party committee and the government of Jincheng County have conducted repeated discussions on the question of promoting economy. After investigations and study and based on an accounting of the natural resources in our county, we have come to realize that in order to increase our wealth at maximum speed and to meet the requirement for becoming "comparatively well-off" according to the decision of the central authorities, we must pay great attention to two links, namely industrial production and agricultural production. Our county has a farming population of 500,000 including 183,000 able-bodied persons, but only 830,000 mu of land including 700,000 mu for grain farmland. If each able-bodied person will take care of 10 mu of farmland, there will be a surplus of 100,000 able-bodied persons. This is a very favorable condition for us to promote production intensively and extensively and to develop economic diversification vigorously. Therefore, we have never relaxed our efforts on grain production, and with a large increase in the per-unit output as a prerequisite, we used hawthorn, mulberry, Chinese parasol tree, long-hair rabbits, coal, light industry, power industry and highway construction as the breakthrough points in the country's economic development. Coal is the key product in our county. In 1990, the total annual output may reach 10 million tons, and at the rate of 20 yuan per ton, the total output value will be 200 million yuan, or a per-capita income of 400 yuan. However, as the people said, "Coal is our life, but transportation is our disease." Even though coal production is increased, no useful purpose can be served if the coal cannot be transported out. It will mean that Jincheng County cannot become rich.

On the Question of Funds

Jincheng's income is not bad, but its expenditures are also heavy. Some undertakings must be carried out as urged by the provincial and prefectural authorities, and that is why the funds allocated for highway construction cannot be very large. There is now a sharp contradiction between shortage of funds and highway construction. For the Jinzhang Highway, for example,

there should be a total investment of 7 million yuan. Since last year, the prefecture has allocated 440,000 yuan, while the county, after trying every possible means, has been able to contribute 400,000 yuan. There is still a huge shortfall. While facing this problem, we have also analyzed the favorable conditions. First, the broad masses of cadres and people are very enthusiastic in highway construction. The county had 183,000 able-bodied persons, and if each of them would work 5 days on a voluntary basis, there will be more than 900,000 voluntary labor days in 1 year and 1.8 million of them in 2 years, by which time, at least half of the construction will be completed. If the labor force were well organized, the efficiency could be further raised, and then, with provincial and local support, we would be able to proceed with the work. The important question now was how to organize the work force. Since the adoption of the responsibility system in agriculture, all able-bodied persons have to be responsible for certain plots, and this real problem could not be ignored. After soliciting a wide range of opinions, we adopted the method of "dividing the highways into different sections to be assigned to different communes which, given appropriate subsidies, should in turn assign specialized persons for the work." The first phase of work called for stone- and earthwork for 22 kilometers from Chengguan to Jaihe, and a specialized force of 2,000 persons was organized for this purpose. To relieve these workers of other worries, it was specifically agreed that members of this force were no longer required for farming. One out of every three able-bodied persons in the unit--which were undertaking farming under contract--was picked out for road construction. Except for the labor-days offered on a voluntary basis, all labor spent in completing work quotas was paid for according to the average commune wage rate.

9411

CSO: 4006/122

TRANSPORTATION

HIGHWAY CONSTRUCTION ADVOCATED FOR ADVANCING PEOPLE'S WELFARE

Beijing GONGLU [HIGHWAYS] in Chinese No 10, 1982 pp 9-10

[Article by the People's Government of Huguan County, Shanxi Province:
"Build Highways Vigorously for the Benefit of People"]

[Excerpts] Our Huguan County is located on the Taihang Mountain and adjoined to Huixian and Linxian counties of Henan in the east. It is at a high elevation with steep slopes, and full of rocks with very little earth. It is rich in mineral resources, and there are many different varieties of native products.

On the basis of 121 highways for all the communes and production brigades in the county in 1978, the number of highways has now been increased to 175, including 21 with a total length of nearly 150 kilometers newly built in 1981. In the county, there are 394 production brigades, and 359 of them are accessible by motor cars. More gratifying still, the reconstruction of the roadbed of Sizhao Highway--construction of which began in 1979--has been completed after the "mass battle" of last year. This highway, totaling 22.5 kilometers and running through six communes, has been completely open to vehicle traffic since 1 June this year. Of the six blind roads from Dianshang to Shibo, from Dianshang to Jinzhuang, from Dianshang to Baichi, from Dianshang to Changhang, from Changhang to Shuzhang, and from Ewu to Qiaoshang--reconstruction of which began last winter and this spring--two of them is now open to through traffic, and the remaining four are expected to be open within this year. Next year, vehicles will be able to drive in three different circle routes in which no backtracking will be necessary. For example, if they start out from the county city, they can pass through 15 communes--including Yanghu, Huangshan, Dongpolin, Baichi, Changhang, Shuzhang, Ewu, Qiaoshang, Shihemu, Shibo, Jinzhuang, Chongxian, Xincuan and Xizhuang--before returning to the county city. This route is called the big circle. If they start out from the county city and pass through Chuandi, Gucuan, Dianshang, Dongjingling, Shibo, Jinzhuang and Chongxian before returning to the county city, they will be taking the medium circle. Finally, if they start out from the county city and pass through Wulongshan, Chuandi, Huangshan, and Yanghu before returning to the starting point in the county city, they will be taking the small circle. By that time, there will be a network of highways lined with trees in the county, and these highways will link the county with its neighboring provinces and counties, and the communes and production brigades in the county with one another. This will greatly help develop industry and agriculture in the county.

TRANSPORTATION

HIGHWAY ADMINISTRATION STRENGTHENED IN HUBEI PROVINCE

Beijing GONGLU [HIGHWAYS] in Chinese No 10, 1982 pp 11-13

[Article by Hubei Provincial Communications Bureau: "Methods To Strengthen Highway Administration in Hubei Province"]

[Excerpts] Hubei Province is located at the middle reaches of Changjiang. It has an area of more than 189,000 square kilometers. Mountains and hills occupy 70 percent of the total area; plains, 23 percent; and rivers and lakes, 7 percent. It has a population of 47 million, and consists of eight prefectures, six municipalities directly under the province and 78 counties (municipalities).

Highway communication was very backward in this province before the liberation. There was no highway at all until 1922; and in 1949, the year of liberation, the total length of highways, all in run-down conditions, was only 3,000 kilometers. In the 30 and more years since the founding of the People's Republic, highway construction has taken gigantic strides under the leadership of the party and the government. Now, the highways in the province total 45,000 kilometers, including 8,900 kilometers with asphalt surface. A highway network with Wuhan at the center and 10,000 kilometers of trunk roads linking together all the prefectures, municipalities, counties and communes in the province, is now taking shape.

With the increase of traffic mileage and particularly the surfacing of roads with asphalt, highway administration has become an arduous and complicated task. Because of anarchism and weaknesses in our administration, encroachment on and damage to highways have become widespread and serious. Every summer and autumn, thousands of kilometers of asphalt road in the plains and hilly areas, where wheat and rice are densely planted, would become threshing grounds. Some people would pile up haystacks along the road shoulders; some would use the roads as sunning grounds before the vehicles would pass by; some would stand at the center of the road and "direct" the vehicles to roll over the wheat and rice; and some would set up barricades with farm tools or stones in order to force the vehicles to run over the wheat and rice. There would also be an endless stream of ox-drawn carts, hand-carts and tractors transporting wheat or rice along the highways which are littered with hayforks, wooden winnowing spades, brooms and other farm tools. Particularly in the last 2 years, when the system of fixing output quotas for households had been adopted, old people as well as children would take to the road day and

night. Such spectacles can be witnessed over tens of kilometers. In many places, fist fights between peasants can be seen when they have disputes over the use of highways for their own purposes. To avoid troubles, some production teams have divided up the highways among the peasants, thus causing traffic jams with long lines of vehicles at standstill. In recent years, serious incidents involving the burning of vehicles when haystacks caught fire have occurred. At the time of combating drought or flood, highways again would be turned into drainage ditches; sometimes 20-30 ditches would be cut across a highway section about 10 kilometers long. Some peasants, trying to save water for themselves, would dig their own ditches at will and these ditches often become traps for vehicles resulting in traffic accidents. Last year, a certain director of organization department died in a traffic accident only because of these ditches. In the past 2 years, setting up vendor stalls along the highways has become very common. These stalls, run by the state, the collectives or the individuals, occupy the road shoulders and a large portion of the road surface. The situation is even more serious along the trunk roads where traffic is heavy. Here, the stalls are so closely squeezed together that, as it seems, even the flow of water can be blocked. Worse still, many government offices, factories, schools, stores, hotels and private individuals have built houses on both sides of the highways, which are thus turned into streets. Some people have built latrines, pig-pens on the highways, and others have even used them as burial places. In the mountainous areas, busy scenes of blastings and the manufacture of brick, tiles and lime are quite frequent. In some highway sections of only a few kilometers, there are as many as 10-20 kilns whose bricks, tiles, lime and adobes cover up more than one-half of the road surface. In the timbering areas, the processing of timbers into other materials and the check points set up also seriously hamper vehicle traffic. Furthermore, the indiscriminate felling of trees along highways is also very serious, and each year, more than 1 million yuan has to be spent in keeping the highways lined with trees. Yet in some place, trees can hardly be seen despite the money spent on tree-planting every year, simply because the small trees have been uprooted and the large ones have been cut down. Some people have used the "nibbling" method to expand their plots into the highways; some have stolen the bridge railings for building houses and also the mile-stones to be used as steps; and some have even stolen the road-sign boards for building their pig-pens. Such chaotic highway administration is posing a serious threat to traffic safety and affecting transportation and production resulting in tremendous losses to the state. Last year, the Hubei Provincial Communications Bureau, in collaboration with the prefectural and county communications departments, conducted a serious investigation into the causes of traffic accidents in one of the main trunk roads in our province, the Hankou-Shashi Highway (230 Kilometers long). In the 76-kilometer section within Mianyang County alone, chaotic administration was responsible for 304 traffic accidents with 111 persons killed and 187 persons injured in 1976-1980. This news produced strong repercussions in various sections of the community. The people said: "We hoped for highways when we did not have them; now that we have them, it is unsafe to travel along them." The vehicle drivers said: "The present messy conditions of highways make driving a very hazardous experience." Some others said: "China's highways are really useful. In addition to vehicle and pedestrian traffic, we can use them as threshing and sunning grounds." An old overseas Chinese who had returned to his native

village from Canada, where he had stayed for 40 years, said with great emotion: "My native village has indeed undergone a great change, with highways radiating in all directions. Unfortunately, they are covered with hay and vehicles can only crawl along."

People have raised many outcries concerning the serious problems in highway administration and the party committees and governments at various levels are taking a serious view of this situation. To quickly change such a situation, the Hubei Provincial People's Government issued the "Provisional Regulations Concerning Highway Administration in Hubei Province" as Document No 29 in April this year. These "Provisional Regulations" consist of 13 articles. Besides reiterating and supplementing the regulations concerning highway administration in the past, the main feature is that they include punitive measures for violations of regulations and the relevant "by-laws" of administration. These "Provisional Regulations" empower the highway administration departments to deal with the offenders in the following ways: Anyone piling up things on the highways, using them as threshing grounds, building shacks or houses or setting up vendor stalls on them should be criticized, warned, and given time limits for them to clear the highways, failing which, the buildings will be forcibly demolished and the materials on the highways will be confiscated. In the case of damage to the highways, bridges and the auxiliary facilities, the offenders will have to pay a fine 3-5 times the required amount of repairs. In the case of damage to the roadside trees, the offender is required to plant three trees for every one damaged, pay a fine of 5 yuan, and return whatever he has taken away. If he fails to return them, the fine will be heavier and the amount will depend on the size of the tree he had destroyed. Those who have caused damage to the highways, bridges or the auxiliary facilities resulting in losses to the state; who have wantonly felled highway trees; and who have attacked the highway administration personnel and thus committed a serious breach of law, will be reported to the public security organs to be dealt with according to law. These strong corrective measures have won the warm support of the broad masses and the communications departments.

In the past 2 or more months, thanks to the strong leadership and support from the provincial party committee, the provincial government and the party committees and the governments at various levels as well as the common efforts of the communications, public security, judicial, and the industry and commercial administration departments, the regulations contained in No 29 Document of the Hubei Provincial Government have been gradually implemented. The chaotic administration of highways has been changed and the highways are now beginning to show a new appearance. First, even when there are bumper harvests of summer grain and early rice, the communes, production brigades and people along most of the highways have changed their old habits of using highways as threshing grounds. Wheat and rice are no longer seen on the trunk roads, while even on the branch roads, threshing grounds are now much fewer. Second, 80 percent of the barricades and vendor stalls have been removed, and there are no more heaps of articles left on the roads. Third, road conditions are now decidedly better, especially for the trunk roads. Here, the road signs are basically left intact, the road surface is clean

and tidy, and the traffic can flow freely. In June, the proportion of good roads in all trunk and branch roads was as high as 59 percent, a rise of 5.4 percent over the same period last year. In the same month, the proportion of good roads in the 11 trunk roads was 70.4 percent, a rise of 3.6 percent over the previous month. Fourth, highway traffic accidents have dropped since June. The number of accidents has dropped by 9 percent; the number of deaths, by 18 percent; the number of the injured, by 5 percent; and economic losses, by 4 percent.

9411

CSO: 4006/122

TRANSPORTATION

BRIEFS

NANJING XINSHENGXU PORT--The construction of the Nanjing Xinshengxu port, a key construction project of the state, began not long ago. The first stage of the construction scheduled for completion in 1985 consists of three 25,000-ton deep water berths with landing platforms. This general cargo port will be outfitted to handle an additional 1.3 million tons of goods per year, 4 times the load handled by the existing Nanjing port. [Text] [Beijing CONGREN RIBAO in Chinese 20 Sep 82 p 1] 5360

FREIGHTERS FOR HONG KONG COMPANY--"Haiyao" and "Haifu," two 27,000-ton bulk freighters built by the Dalian Shipyard for Yingni Company of Qingzhou, Hong Kong, were launched and delivered at a ceremony 31 August. These two ships, light in deadweight, fast and rational in structure, are of the quality specified in the designing. [Text] [Shengyang LIAONING RIBAO in Chinese 1 Sep 82 p 2] 5360

'YANGCHENGHU' MAIDEN VOYAGE--"Yangchenghu" of the Dalian Oceanic Shipping Company loaded with more than 12,000 tons of export gasoline reached San Francisco harbor on the morning of 30 August after sailing for 16 days, a voyage over 5,400 nautical miles. The Americans concerned were quite impressed when they saw "Yangchenghu" at the San Francisco harbor. [Text] [Shengyang LIAONING RIBAO in Chinese 1 Sep 82 p 2]

HEILONGJIANG WATER TRANSPORT--In August, the provincial shipping system of Heilongjiang handled 380,000 tons of cargo and achieved 115 million ton-kilometers of cargo turnover, surpassing the scheduled monthly quota by 10 and 17 percent respectively, the highest ever for the same period in all previous years. The Waterways Engineering Bureau has made the waterways navigable by deploying 5 dredgers which dredged over 20 shoaly spots between Jiamusi and Tongjiang. The crew of Longtuo No 6 who volunteered to sail both day and night have achieved the best record by pulling three tugboats to haul over 2,000 tons of cargo each voyage. In spite of many obstacles, the crew of the oil carriers, Daqing Nos 505, 503 and 501, have shipped to the border areas 49,000 tons of oil, up by 4,000 tons over that of the same period last year. All the ports and shipping stations have improved their facilities to handle more cargo. By synchronizing the movements of vehicles and ships, Harbin has cut down the docking time of ships in its port. The Jiamusi port which had reorganized its labor force has doubled the volume of coal its loads and unloads. The sustained efforts of the staff and workers of the Shahezi port, the Suibin shipping station and Huma shipping stations have led to a splendid high level of loading operations in August. The Hejiang Shipping Bureau which follows a policy of massive loading and speedy shipment had handled 147,000 tons of cargo and scored 58 million ton-kilometers of cargo turnover during

the month of August, surpassing the record for the same period a year ago by 21 and 17 percent respectively. [Text] [Harbin HEILONGJIANG RIBAO in Chinese 16 Sep 82 p 3] 5360

SUPER FREIGHT CAR BUILT--The first new railroad freight car for extra heavy and long cargoes has been trial-manufactured by the Qiqihar Rolling Stock Plant. This kind of freight car, designed in China, is built of locally produced material and parts. It is 62.2 meters long with a carrying capacity of 350 tons, and can transport heavy machinery such as large generator stators. It has side-dropping, elevating, and self-loading and unloading capabilities. Tested and rated stable and secure, it could provide the transport services required for developing China's electrical, chemical and water conservation industries. [Text] [Beijing BEIJING RIBAO in Chinese 20 Sep 82 p 4] 5360

TIAN-LAN RAILLINE ELECTRIFICATION--According to reports of success from the Tianshui-Lanzhou Railline electrification construction site, the electrification of the Tianshui-Longxi sector of the railline has been basically completed. The electrification of the Tian-Lan railroad, a total of 354 kilometers, is a key construction project of the state. Once it is completed, the shipping capacity of the rail line will be doubled. The conversion job for the Tianshui-Longxi sector is most difficult because it crosses the Weihe 5 times, goes through 43 tunnels and over 265 bridges. Having battled all kinds of severe weather conditions, wind, rain, heat and coldness, the broad masses of railroad staff and workers finally completed all the installations and cable connections by the end of July this year. The engineering quality has been found satisfactory for delivery. [Text] [Beijing GONGREN RIBAO in Chinese 24 Sep 82 p 1] 5360

NORTHEAST AIR ROUTE OPENS--Approved by the Civil Aviation General Administration, the Shenyang Civil Aviation Administration opened 1 September its Shenyang-Dalian-Qingdao-Shanghai airline route. It is a 1438-kilometer flight requiring 3.45 hours flying time. The one day round trip takes place twice a week, Wednesday and Saturday. This line is to make travel between Shenyang and other big coastal cities more convenient. The maiden flight which took off from Shenyang returned the same day. [Text] [Shenyang LIAONING RIBAO in Chinese 2 Sep 82 p 2] 5368

FIRST CONTAINERIZED CARGO SHIP--"Babuya," the first containerized 10,000-ton class cargo ship designed and built by the Guangzhou Shipyard was launched in Guangzhou on the 17th (September). "Babuya" is built for the Plymouth Shipping Company of America. It is 134.45 meters long, 20.8 meters wide and 10.5 meters in molded depth, with a loading capacity for more than 670 20-foot containers. It travels at 14.5 knots when loaded to capacity, and its cruising radius is 6,000 nautical miles. It is equipped with advanced facilities, highly automated and shock-proof. Availing itself of the new technology, new processes and hull construction methods known in China and abroad, the Guangzhou Shipyard was able to construct the hull economically and fast. The ship's design and construction not only meet the international shipbuilding specifications but also the navigation and port regulation requirements. It is fit for navigation in any international waters. The engineering quality of the ship's hull and that below the waterline were found in complete agreement with international

standard by the technical experts of its owners who inspected the ship in August this year. [Text] [Beijing BEIJING RIBAO in Chinese 20 Sep 82 p 4] 5360

BAILONGJIANG HIGHWAY BRIDGE OPENED--The Bailongjiang bridge which connects the city of Wudu and its suburb communes was recently opened to traffic. This bridge, 151 meters long, is presently the longest arch bridge across the Bailongjiang. Surveyed and designed in May, 1976, by the Gansu Provincial Highway Bureau's engineering office, the construction began in June. The estimated cost was budgeted at 1.51 million yuan. However, due to the efforts of leaders and technical personnel of the engineering command to save money and yet do a good job, there was a saving of 330,000 yuan. The completion of this big highway bridge has not only wiped out all the problems for pedestrians, vehicles and cargo on both the south and north sides of the river to get across, but also made it possible to ship lime produced on the north of the river directly to the city and all other localities within the county. [Text] [Lanzhou GANSU RIBAO in Chinese 18 Sep 82 p 2] 5360

FIRST BEIJING PAY TELEPHONE--An elegant silver gray booth, the first street corner public pay telephone booth of the nation's capital, was installed yesterday north of the elevated pedestrian path at Xidan. This type of pay telephone and the telephone booth are jointly designed and produced by the research laboratory of the Beijing Municipal Telecommunication Bureau, Tianjin Telephone Equipment Plant, and Tianjin Communication Machinery Plant. The booth, 2.2 meters tall and 0.8 square meter in service area, is built of high quality sectional aluminum with glass panels on all sides, quite pleasing to the eye. Its door closes automatically when a customer enters. Well ventilated and sound proof, telephone conversations are free from interferences such as busy street noise. There is a writing platform, plus a clothes and handbag hanger inside the booth. When placing a call, remove the receiver first, insert 4 cents into the coin drop and wait for the dial tone. If the call does not go through, return the receiver to the switchhook for coin return. It is reported more telephone booths like this will be installed at street corners along both East and West Changanjie. [Text] [Beijing BEIJING RIBAO in Chinese 24 Sep 82 p 1] 5360

CSO: 4006/074

GENERAL

ECONOMIST HONORED BY SOCIAL SCIENCES ACADEMY

OW181842 Beijing XINHUA in English 1617 GMT 18 Dec 82

[Text] Beijing, 18 Dec (XINHUA)—Economist Sun Yefang, 75, who has been in the Chinese Communist Party for nearly six decades, has been honored as a "model communist" by the Communist Party Organization of the Chinese Academy of Social Sciences.

Sun Yefang is the honorary director of the academy's Institute of Economics. A member of the Chinese Communist Party since 1924, he was elected member of the Central Advisory Commission at the 12th National Congress of the party last September.

The decision of the academy's party organization paid tribute to Sun Yefang for many theories he proposed toward the end of the 1950's and in the early 1960's to correct defects in China's economic management system and errors in economic policies.

He held that raising economic results are the key to developing socialist economic construction and that importance should be attached to the law of value in economic planning. He also advocated the use of economic leverage and assigning a greater role to profit quotas in economic management; expanding and appropriately defining the right of enterprises in management and correctly handling the relationship between concentrated leadership by the state and independent operations of enterprises; and accelerating the depreciation rate of enterprises' fixed assets to encourage technical transformation of existing enterprises.

In spite of poor health in recent years, Sun Yefang has advanced valuable propositions to solve new problems in socialist economic construction, the citation of honor said. His view that technical transformation of existing enterprises is important to the fulfillment of China's strategic objective--quadrupling gross agricultural and industrial output value by the end of this century--was incorporated into Premier Zhao Ziyang's report to the recent National People's Congress session.

The decision praised Sun Yefang's consistent adherence to the principle of "combining the universal truth of Marxism with the concrete conditions in China." He has always refused to follow blindly orders from the above or

doctrines from the books, but proceeded from actual conditions in doing everything, the decision said.

"He has taken principled stands on behalf of the proletariat in defending the Marxist theories," it said. "He was persecuted for opposition to Wang Ming during the 1920's and rejected by the Wang Ming sectarian clique during the 1930's. After the founding of new China, he was persecuted by Kang Sheng for breaking away from the conventional and 'leftist' thinking and putting forward a series of economic theories that have been proved correct in recent years. He was subject to detention during the 'cultural revolution' on orders from the Lin Biao-Jiang Qing counter-revolutionary clique. But Sun Yefang declared: 'I want to live on for the truth.'"

The decision called on all the communists and staff of the academy to follow Sun Yefang's example and creatively study and solve major theoretical and practical problems in socialist economic construction.

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